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Railway Age

FIRST HALF OF 1920—NO. 25

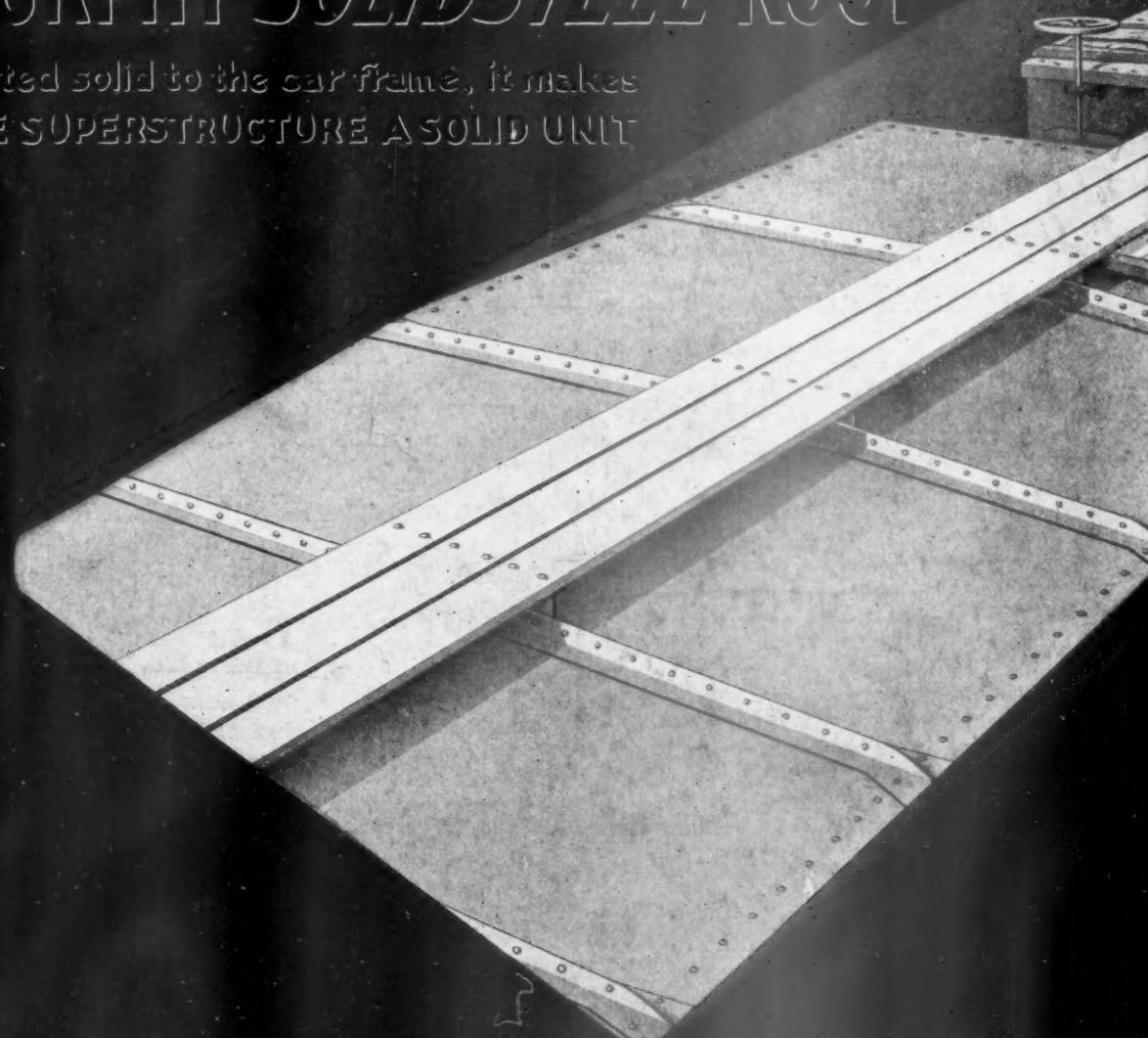
NEW YORK-JUNE 18, 1920-CHICAGO

SIXTY-FIFTH YEAR

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THE SUPERSTRUCTURE A SOLID UNIT



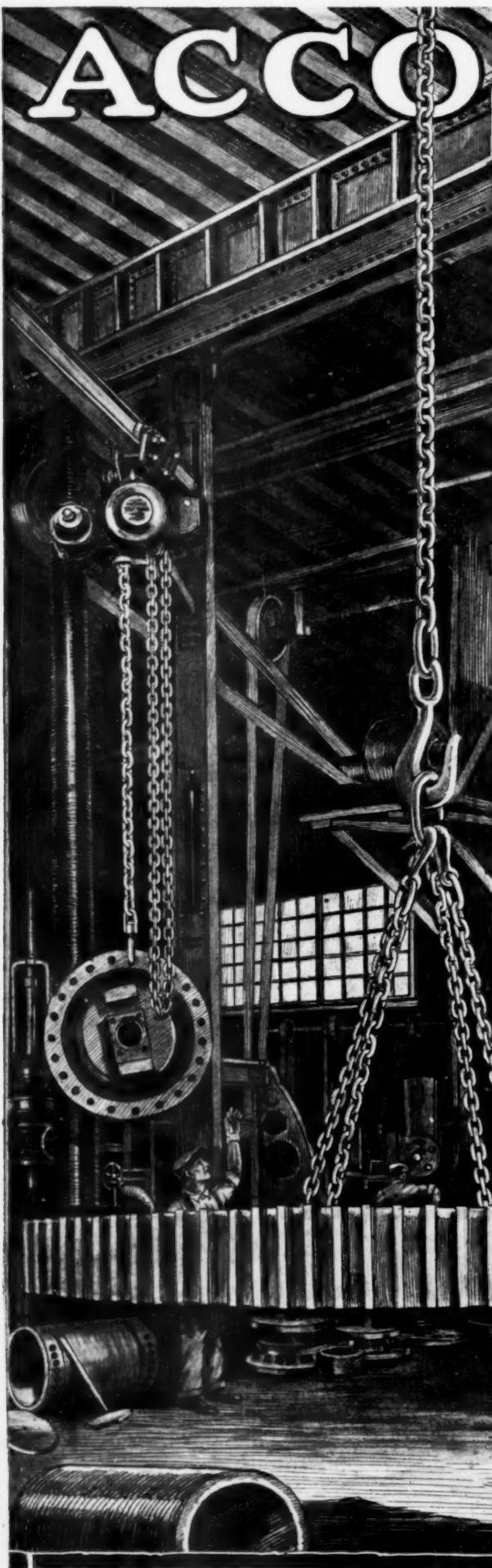
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EDITORIAL

Railway Age

EDITORIAL

The Table of Contents Will Be Found on Page 5 of the Advertising Section

The situation with respect to the building of new freight cars is anything but satisfactory. There never was a time when

Small Orders for Freight Cars

satisfactorily the traffic the country can offer the railways at the present time, the roads should have in service about a quarter of a million cars more than they have. In spite of the fact that this great shortage of cars exists the number on order with the car manufacturing companies on June 1, has been ascertained to have been only 43,000, and most of the orders for these were placed in the immediately preceding weeks. This is less than one-half as many as are needed annually not to increase the supply, but merely to replace those that must be scrapped. The number of orders became so small for a time that in the month of May the total number of cars built was only 2,700. When it is considered that the car manufacturers of this country have a capacity of about 27,000 a month, or 320,000 a year, and that they actually have built 240,000 cars for the railways of the United States in a single year, the significance of the figures given regarding the small number recently built and the small number now on order becomes apparent. If the railways get a prompt and favorable decision in the rate advance case there undoubtedly will be within a short time a large increase of orders, but it is too late now for many cars ordered in future to be delivered in the year 1920. The delays in ordering cars have been due to the delay in returning the railways to private operation. This, of course, rendered it impracticable for the Interstate Commerce Commission to make advances in rates under the new law early in the year, and as long as the rate question is unsettled it is financially impossible for most roads to commit themselves to large expenditures for equipment or anything else. The sooner the commission renders its decision, and the more favorable it is to the railways, the sooner the railways will become able to begin placing orders for cars that will tend to make up the enormous shortage of transportation facilities. At present this shortage of facilities is rapidly growing greater every day.

Not the least important of the numerous recent developments favorable to the railways has been the preliminary findings

The Valuation a Boomerang

of the Division of Valuation. These were summarized by Thomas W. Hulme, vice-chairman of the President's Conference Committee on Valuation in a statement presented before the Interstate Commerce Commission on May 27 and abstracted on page 1567 of the issue of last week. In this statement Mr. Hulme offered a comparative summary of the Division of Valuation's cost of reproduction new, including land, and of the carriers book records of investment in road and equipment for 50 Class 1 roads, the data for nine of which was taken from tentative valuations which had been served formally on the roads and for the remainder from preliminary reports which had been served on the roads informally. This comparison showed a total valuation of \$3,203,782,543 as

compared with an investment in road and equipment of \$3,158,275,156. When it is considered that the figures of the commission are minimum figures containing only those items which it is prepared to concede and that any revisions made as a result of showings by the roads or the reversion of rulings of the Division of Valuation will be upward, there is further cause for gratification. It should also be remembered that the roads selected for first attention (those whose findings are included in the figures above) were in many cases those which had been in financial difficulties in recent years and may, therefore, be expected to show less favorable results than many of the stronger and more prosperous roads which have been able to plow back into their properties large amounts from earnings. The Valuation Act became a law primarily through the efforts of those who had been active opponents of the roads and who thought to further harass them by securing data to support their statements as to excessive capitalization. That the findings are not going to be in accordance with the expectations (and the hopes) of the advocates of this law is becoming increasingly evident. The provision in the new transportation law that the valuation shall provide the basis on which rates are to be computed and the indication that this valuation bids fair to exceed the book cost of road and equipment after a detailed study and inventory which has never been equalled for thoroughness, is now proving the valuation to be a boon to the railways and a boomerang to their former opponents.

Chairman Clark of the Interstate Commerce Commission in replying to the letter of F. J. Lisman printed elsewhere

Refunding in the Next Twelve Months

in this issue, says that Mr. Lisman is the first, so far as he knows, who has attempted to define the term "re-establishing railroad credit." He attempts to do so positively and negatively but negatively is much easier. In the appendix to Mr. Lisman's letter, he lists and comments on the credit of each of the Class I roads. We have reprinted the comments on the larger railroads only, but these comments are particularly interesting because Mr. Lisman is one of the few bankers who still specialize in railroad securities. It is rather interesting to supplement his letter with a study of the railroad maturities within the next twelve months. There are eight of the larger railroad companies having to take care of considerable issues of bonds exclusive of equipment trust certificates in the fiscal year ending June 30, 1921. The Chicago, Milwaukee & St. Paul has \$4,494,000 first mortgage 6 per cent bonds of the Dubuque division; \$1,486,000 first mortgage 6 per cent bonds of the Wisconsin Valley division; and \$25,334,000 Chicago & Pacific Western division first 5's; a total of over \$32,000,000 maturing before July 1, 1921. The Erie has \$16,891,000 consolidated 7's; \$3,699,000 New York, Lake Erie & Western first consolidated funded coupons; and \$2,926,000 New York & Erie fourth gold 5's maturing. The Pennsylvania has various issues of bonds maturing but, as Mr. Lisman says, has just completed the sale of \$50,000,000 of bonds partly for refunding purposes. The Pennsylvania Company, however, has \$12,705,000 3 3/4 per cent French loan and its \$26,470,000 4 1/2 per cent gold

loan to take care of. The Great Northern has \$20,000,000 three-year 5 per cent notes maturing. The Chicago & North Western has \$10,000,000 thirty-year debenture 5's maturing. The Delaware & Hudson has \$9,000,000 five-year 5 per cent notes and its Rensselaer & Saratoga first consolidated 7's (not guaranteed as to principal) amounting to \$2,000,000, maturing. The Louisville & Nashville has \$3,500,000 Southeastern & St. Louis division 6's maturing. The Western Maryland has \$5,000,000 7 per cent notes maturing and an additional \$1,000,000 coal and iron first 5's. Not one of these companies has common stock selling at par on the open market. The securities of most of these companies are held in part by savings banks, insurance companies and trustees of estates. There is an immediate problem presented here which must be faced by the Interstate Commerce Commission in its consideration of the present rate case. The transportation act has specifically placed some responsibility on the Interstate Commerce Commission and no longer are the banks and the executive officers of the railroads solely responsible to the investing public and the savings bank depositors for finding the money necessary to meet maturing obligations.

Imperilling Private Management

THREE NEVER WAS A TIME when conditions more imperatively demanded that the railways should subordinate their individual interests to the welfare of the railways as a whole and of the country as a whole than they do now. Even when the United States entered the war in April, 1917, the need for this was hardly greater than at present. The most salutary way in which the railways can subordinate their individual interests to the welfare of the railways as a whole and of the country as a whole is by so co-operating as to move the maximum amount of traffic possible and rendering the best service practicable in doing so.

In the emergency of war the railways voluntarily organized the Railroads' War Board and delegated to it authority to supervise the operations of all of them and to disregard the special interests of individual lines when this was necessary to the public welfare. They carried out very well the general plan adopted at that time, although there was more than one case in which the general agreement entered into was not strictly observed and when the orders of the Railroads' War Board were not explicitly obeyed.

When the railroads were returned to private operation their facilities were much more inadequate than they were at the time the nation entered the war. The need for them to pull together in their own interest, as well as in the interest of the country, was obvious. This need was greatly accentuated when the railroad strikes began within a month after private operation was resumed. Considering the difficulties with which they have been confronted, the railways since private operation was resumed have made a good record in moving business. They have not, however, been working together as their own interests and the welfare of the country demand. They established the Commission on Car Service at Washington and most of them signed an agreement to obey its orders in the handling of cars. Without entering into disagreeable details, attention must be called to the fact that some roads have not lived up either to the letter or the spirit of their agreement, and that some have not even signed it. There have been numerous cases of flagrant disregard of car service rules and of the orders of the Commission on Car Service.

In fact, from the time when private operation was resumed there has been manifested a strong disposition on the part of the managements of many lines to operate their properties with a view to what they have conceived to be their individual interests, almost regardless of the effects on the general trans-

portation situation. That this has been the case is known not merely to railway officers but to the Interstate Commerce Commission. The Commission finally was appealed to by a large number of railways to exercise the powers delegated to it by Congress in the Transportation Act to redistribute railroad equipment. The Commission subsequently felt called upon to issue a statement warning the railways that the Transportation Act provided penalties for violations of its car service orders and that unless they were strictly obeyed prosecutions would follow. These prosecutions, if successful, would result in heavy fines being imposed upon the offending companies.

Perhaps it should not be surprising, but it certainly is most discreditable and discouraging, that after all the experience the railroads have had with the results of their failures in past years to keep their agreements with each other and to work together in good faith there should have been within a few weeks after the resumption of private operation the recurrence of developments such as those which have caused much of the restrictive regulation to which the roads have been subjected and which even contributed in no small measure to causing the adoption of government operation. Surely there must be very few railway officers who do not realize that private ownership and management of railroads is now being put to what probably will prove to be its crucial test, and that developments such as those to which we have referred are bound to tend to change the attitude of the public and the regulating authorities from one which is highly favorable to private management to one which will be unfavorable. The public and the regulating authorities are not going to form their final judgment of private management by the service any individual railroad renders to its own patrons. They are going to form their judgment by what the railroads as a whole do for the public, and the railroads as a whole cannot and will not render to the people of the United States the best service of which they are capable and put themselves in the best position in which to defend themselves unless they co-operate fairly and fully with each other.

It has been demonstrated beyond question by all the experience we have had under private management that the railroads never will co-operate fairly and fully with each other in the distribution of equipment and in the handling of traffic until every individual line is forced to do its duty to other lines either by some organization or agency established by the railroads themselves or by some governmental agency. It is not desirable that any governmental agency should be continuously engaged in forcing the individual railroads to do what they ought to do, for the result of this would be to throw more and more of the control of the details of railroad management into the hands of the government, and the more government intervention there is the more restrictions will be imposed upon private management and the more arguments there will be created for government ownership. From the standpoint of the welfare of the railroads themselves and the public, therefore, the correct conclusion seems to be that the railroads should establish some organization or agency of their own for coercing themselves. They should first establish sound rules and principles, and then punish railroads which do not live up to these rules and principles. Once it has been made clear that when a railroad which has violated a car service rule or disregarded an order of the Commission on Car Service will be punished, perhaps by having wide publicity given to the facts or even by being denied the opportunity to exchange equipment with other railroads until it has given satisfactory reason to believe it will act fairly and honestly in future, there will begin to be ground for confidence that the railways will pull together sensibly and fairly in future, and probably not before.

Many of the recent developments affecting directly the relations between the railroads themselves and indirectly the

service rendered to the public and public opinion regarding private operation have been so indefensible that it is difficult to decide to what reason to attribute them. It would seem that some railway officers put on blinders to keep from seeing anything except what is on the rights of way of their own lines. It is high time that a good many railway managers awakened to a realization of the conditions with which the railroads of the country are confronted and adapted their methods to the requirements of those conditions. Otherwise they will soon destroy the present favorable public sentiment toward private management and perhaps in the long run destroy private management itself.

A Call for More Efficient Signaling

THE STUDY of train operation, by H. M. Sperry, printed in the *Railway Age* of June 4 and June 11, brings together numerous scattered facts and arguments concerning train despatching and signaling, with which most of us are already familiar but which we sometimes neglect because, apparently, of the very fact that they are familiar. He includes numerous things which we already know, but do not know well enough. He proposes what seems like a radical change—to abandon all written orders and convey instructions to enginemen wholly by means of signal arms supported on roadside posts. And yet the proposal is not radical, for the practice proposed is already in use, and familiar to everybody, in large interlockings, at dozens of cities; and the only change in fundamentals that is here suggested is to extend this practice; to extend a limit of two miles, to one of two hundred miles. Or, to take another comparison, the proposal is that the perfect facility with which trains are moved under automatic block signals on a double-track road, with blocks less than a mile in length, ought to be availed of in varied situations where we have all along assumed that such facility was impracticable or too costly. And it is only because of a lack of foresight, or of money, or energy, or enterprise, that the progress here proposed has not been already accomplished. We are called upon to more carefully take account of our resources.

The problem outlined by Mr. Sperry ought to be divided into two problems: one pertaining to lines of less dense traffic, where the manual block system is the appropriate method; and the other to divisions or parts of division where block sections must be short and where, consequently, automatic block signals are needed. If any one thinks that the essay is too long, he can divide it by thus picking out the points bearing on one or the other of these two problems. Another suggestion, to any one who thinks it a burden to read more than one page at a sitting, is that Mr. Sperry has on several occasions printed some of the salient points of his argument on the outside back cover of the *Railway Age*. The editor has no prejudice against the advertising pages!

Mr. Sperry puts his claim for a hearing in the form of a plea for the more formal or definite recognition of signaling as a cardinal element in operating efficiency. Near the end of his article he says:

OPERATING EFFICIENCY

The efforts that have been made to increase operating efficiency have largely been in the direction of:

1. Increasing the tractive power of the locomotive.
 2. Increasing car capacity.
 3. Increasing track facilities by the addition of second, third and fourth main tracks, longer passing sidings and larger yards and terminals.
 4. By the electrification of steam-operated roads.
- These improvements, which require large expenditures, may fail to show an adequate return if the means for directing train operation does not keep trains moving.

In other words, a fifth head should be added to these four. Progress in the four features has been made along well-known and unmistakable paths, apparent to all. This prog-

ress has been reasonably steady (until the abnormal times of the past three years) because competent judges have been fairly unanimous in their views as to what was needed and how the needs should be met. But is there not an equally intelligent unanimity as to the value of those features of signaling which are emphasized by Mr. Sperry? In other words, is there any reason for disagreeing with him on any important point?

The American despatching system has done great things, and has a fascinating history; but if there could be taken a composite motion-picture of the freight-train movements of a day in, say, the whole "Eastern Region," showing clearly the percentage of trains standing motionless on the main track (or on sidings awaiting right to the main track) because of the lack of adequate fixed signals, the force of this argument for an advance in efficiency would be overwhelming.

Pere Marquette

THE Pere Marquette is one of the very few companies which refused to accept the continuation of a guaranteed net equal to the government rental for the current six months. The rental was based on average net earnings in the three years, 1915, 1916 and 1917. In 1917, freight revenue on the Pere Marquette amounted to \$16,850,000; in 1918, to \$22,200,000; in 1919, to \$26,504,000; an increase of \$9,654,000 in 1919 as compared with 1917. Furthermore, this increase is due to an increase in traffic as well as to increased rates. Of the increase, \$2,108,000 is estimated to be due to increased freight traffic alone exclusive of increases due to rates or any other causes. In 1919, the Pere Marquette's operating ratio was only 75. The rental which the government paid in 1919 was approximately \$3,748,000. The operating income of the property under government operation in 1919, after the payment of expenses and taxes, was \$8,046,000.

It seems hard to believe that only a few years ago, the Pere Marquette was a byword for one of the, seemingly, most hopelessly insolvent railroad companies in the country. Attempted consolidation with the Cincinnati, Hamilton & Dayton when that property was still independent, broke the back of the Cincinnati, Hamilton & Dayton and when the Baltimore & Ohio took that road, it refused the Pere Marquette.

Automobiles and a most drastic reorganization are important contributing factors to the immense change that is taking place in the financial standing of the Pere Marquette. When we speak of automobiles being an important factor, it is in the sense that cotton is an important factor in the prosperity of the Southern Railway. Automobiles themselves furnish a small traffic to the Pere Marquette directly. It is freight of all classes which follows the establishment of great manufacturing plants such as those at Detroit that has so greatly increased the business of the road. The tonnage of automobiles carried was only 264,000 and represented but 1.78 per cent of the total tonnage carried by the road. In 1918, only 139,000 tons, or less than 1 per cent of the total tonnage, was automobiles.

The Pere Marquette operates 2,232 miles of road and, in 1919, had \$8,046,000 operating income as previously mentioned. The company which took over the road from the government has outstanding only \$30,455,000 of long term bonds and \$5,870,000 collateral trust bonds, but also has \$5,000,000 bills payable. The total interest charges in 1919, including interest on bills payable, was \$1,727,000 so that a combined income account of the government and the company would have shown a surplus available for dividends after the payment of interest, rentals, war taxes, etc., of \$4,867,000. The company has \$11,200,000 cumulative 5 per

cent prior preference stock; \$12,429,000 cumulative preferred; and \$45,046,000 common. Five per cent of both classes of preferred would have called for less than \$1,200,000 so that the margin for the common would have been over \$3,600,000 or at the rate of 8 per cent.

Emphasis has been laid on the growth of freight business but passenger business, of course, has also kept pace with the growth of the industrial community. Passenger revenue on the Pere Marquette in 1919 amounted to \$6,127,000, an increase of \$1,894,000 over 1918.

Operating expenses were held down remarkably well. The total operating expenses in 1919 amounted to \$26,724,000, an increase of \$3,408,000 or 14.6 per cent.

The annual report of the Pere Marquette is admirable in the full explanation which is given of changes in figures from year to year. Maintenance of way and structures cost \$3,495,000 in 1919, a decrease of 7.8 per cent as compared with the previous year. The principal reason for this decrease was a bookkeeping decrease of \$211,000 in the cost of rail and other track material due to clearing reserves created in 1918 and adjustment of inventory as of December 31, 1917. The Pere Marquette, like nearly all of the other roads which have reported for 1919, shows a considerable increase in the cost of maintenance of equipment. This cost in 1919 amounted to \$7,132,000 or 16.1 per cent more than in 1918. Besides the increases in cost of material and the higher wage scale, equipment which had been put in very thorough repair, required comparatively little maintenance expenditures in 1918 but came in for heavy repairs in 1919.

Transportation expenses amounted to \$14,764,000, an increase of 20.7 per cent and the greater part of this increase is due to higher wages paid to telegraphers, trainmen and enginemen as a result of awards made by the Railroad Administration effective October 1 and December 1, 1918, and December 1, 1919. The Pere Marquette was notably successful in its fuel economy campaign. Revenue locomotive mileage increased 666,000 miles but the fuel consumption was less by more than 10,000 tons. There was 7.6 per cent more mileage gotten out of locomotives on the average per ton of coal in 1919 than in 1918.

The following table shows the principal figures for federal operation of the road in 1918 as compared with 1919. This is not the corporation income account.

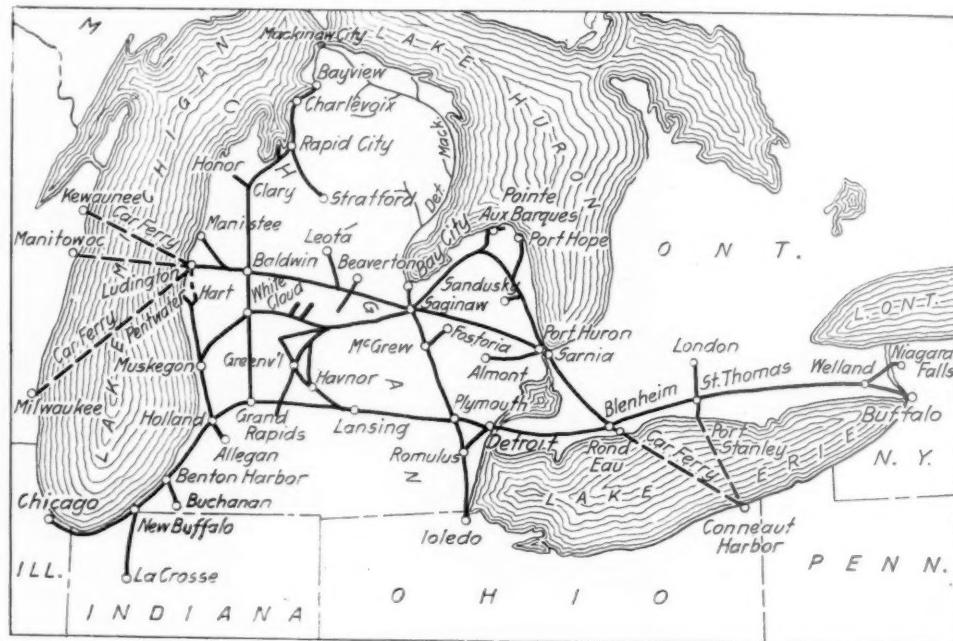
	1919	1918
Average miles operated.....	2,232	2,239
Freight revenue	\$26,504,204	\$22,200,348
Passenger revenue	6,127,461	4,233,797
Total operating revenues.....	35,443,137	28,955,012
Maintenance of way and structures.....	3,495,488	3,790,387
Maintenance of equipment.....	7,132,499	6,143,894
Traffic expense	337,974	344,773
Transportation expense	14,764,362	12,233,619
General expense	877,318	753,118
Total operating expense.....	26,723,825	23,315,551
Taxes	670,865	697,488
Operating income	8,046,078	4,940,470
Surplus after rentals, etc.....	6,717,880	3,851,484

A TRAINMAN kicked a drawbar, he knew it could be done; he used to wear some nifty shoes—now he wears but one.—*Fred Meyers.*

New Books

Non-Technical Chats on Iron and Steel. By LaVerne W. Spring, metallurgist, Crane & Co., Chicago. 6½ in. by 8 in. Bound in cloth. 358 pages, illustrated. Published by Frederick A. Stokes Company, 443 Fourth avenue, New York.

The title of this book suggests a popular treatment, but while the work is in fact free from complicating technicalities there is nothing about the style used which would detract from the value of the book to the student or engineer accustomed to the perusal of serious works. In general, the book may be said to give a bird's-eye view of the metallurgy of iron and steel and the iron and steel industry, including the mining of the ore, the production of the coke, charcoal and limestone used in the manufacturing processes, the manufacture of the various basic iron and steel products, as well as some of the semi-finished and finished materials, such as wire, pipe, etc. The first chapter of the early history of iron is of particular value for the manner in which it differentiates between wrought iron and cast iron. In fact, this particular feature exemplifies one of the notable merits of the book, the manner in which the complex relationships of these and other products of iron ore are clearly differentiated. Such



The Pere Marquette

involved subjects as metallography are treated in a manner that is easily understood. The arrangement of the book is simple. The various primary manufacturing processes are treated in order, followed by chapters on each of the principal products from cast iron to high-speed steel. The last third of the book is devoted to an exposition of the various finishing processes, including forging, rolling, wire drawing and pipe manufacture, with a final section on the various properties of iron and steel and their relation to heat treatment, etc.

Metal Statistics, 1920. 528 pages including advertising, 3½ in. by 6 in., bound in cloth. Published by the American Metal Market and Daily Iron and Steel Report, 81 Fulton Street, New York.

This book probably contains the most complete data concerning metal prices and production for many years past that is available in the form of a pocket handbook and as such the book may be recommended to railroad purchasing agents; although in the present erratic state of the market a study of previous price fluctuations would not appear to be of much value as an index to future price levels.

A Personnel Department for the Railways

Advocates Methods for Selection and Training of Employees
Found Successful in Other Industries

By J. C. Clark

Assistant to General Manager, Oregon Short Line

CONSIDERED SOLELY as a transportation agency, a railroad consists of two essential features; the physical property and the human organization that operates the property. Since the first locomotive was built and the first rail laid, the physical property has been improved wondrously. Experts have been employed to consider the merits of every improvement and enormous sums of money have been spent to obtain the best possible material and the latest devices. The human organization, however, has not received the same attention that has been given to the physical property although it is undoubtedly true that successful operation depends in a large part upon the human element. A good organization can, and often does, accomplish good results with inadequate and poorly maintained equipment, but a poor organization cannot produce other than poor results even with the equipment entirely adequate and well maintained. There have been many changes in methods of organization since the early days of railroading, but the work of selecting and training the individual units of the organization has largely been neglected. The work of selecting and training men requires special study, and the importance of the work deserves special consideration. In some industrial organizations a personnel department has been organized to carry on such work. It is entirely practicable and feasible to establish such a department in railroad organization.

Work of a Personnel Department

The work of a personnel department on a railroad should have three essential features: First, to obtain the best grade of labor from the available supply; second, to train the individual to perform his particular duties efficiently and safely; third, to make the individual contented in his employment. There is no question of the importance of this work. The department should be placed in charge of a vice-president, at least an officer of sufficient authority to carry on the work successfully. The head of the department should divide his organization into the three divisions—employment, training and service. A responsible officer should be placed in charge of each division.

Employment

In order to function properly, the employment division must be familiar with the requirements of the organization it is to serve, both as to quantity and quality of labor. The quantity of labor required by a railroad varies from day to day and from month to month, but it is possible to anticipate the requirements to a certain extent. In order to estimate the requirements, an adequate system of "labor turnover" reports should be established. These reports should indicate the number of persons leaving the service, the number entering the service and the number transferred from one department or class to another. In addition to weekly or monthly "labor turnover" reports, the employment division should be advised of the daily requirements of each department. It is in this way that the most equitable distribution of labor can be obtained. In times of labor shortage the employment division could distribute labor to the points where it is most needed and thus obviate competition between the various departments on the road.

Under the system of employment now followed on most

railroads each department head employs his own men and is more or less familiar with the particular job for which a man is employed. In order that an employment division may select men intelligently for the various jobs, it would be necessary to analyze each job or class of jobs and specifications prepared for them. This can be done by descriptive outlining of the work to be performed or by setting down the chief mental, moral and physical characteristics required. The work of analyzing would alone be productive of good. Few railroads have attempted to analyze the work performed by their employees with a view to obtaining the greatest efficiency. Many skilled men are spending a part of their time in doing work that should be performed by common labor.

Development of the Labor Supply

Another important duty of the employment division would be the development of labor supply in the territory served. There are thousands of young men who would enter railroad service if they knew how to go about it. The young man finishing high school usually seeks employment with a local concern, and unless he lives at a division point on the railroad he knows little or nothing about the opportunities in railroad service. A systematic development of the labor material available will do much in remedying labor conditions.

Selecting and Placing New Employees

Perhaps the most important function of the employment division would be the selecting and placing of new employees. Psychological tests have been developed that determine, to a certain extent, the qualifications of the applicant. Such tests should be developed for each class of employment, and this can be done only by extensive experimental work. In placing an applicant serious consideration should be given to his own preferences. No employee will be contented with a job that he dislikes, and he will not give the best service of which he is capable unless he is contented. It is evident that employment offices should be established at various points along the line in order to carry out the work successfully.

Training

The officer in charge of the training division should have one or more representatives on each division or in each department of the railroad. These representatives may be called personnel officers, and they would have direct supervision of the training of employees, both new and old. They might also co-operate with the employment division in developing the labor supply.

In order to train an employee intelligently it is first necessary to determine his weak points. To do this, some industries have used a method known as that of "limited impressions." This method consists in naming the chief qualities necessary for success in a particular class of work. Without some arbitrary limitations the qualities with which a worker may be credited or debited would be limited only by the descriptive vocabulary of the person making the estimate. Estimates of this character made of the same employee by two or more supervising officers could not be compared, but by limiting the qualifications and giving each qualification a definite value the various estimates can be compared and an average obtained. For example, the chief qualifications of

a conductor might be stated as judgment, intelligence, sense of responsibility, loyalty, obedience of rules, vigilance or alertness, team work, powers of observation, punctuality and steadiness and knowledge of equipment. Each of these qualifications should be given a definite value and the total should be 100. The supervising officer will be required to make a report of each employee, giving a rating of excellent, good, fair or poor for each qualification. When a number of these reports have been made by various supervising officers, an average could be obtained that would give a very definite and correct estimate of the employee's value to the service. In connection with the qualifications named, however, an estimate should also be obtained of the character and habits, disposition and temperament of each employee.

The value to an organization of such a system would be great. Under present conditions, as long as an employee's work progresses satisfactorily, the employee is regarded as a useful fixture and little or no attempt is made to study him or to gage his capacities. When the employee gets into trouble or is up for a promotion, a hurried estimate must be made of his abilities. By having individual progress reports made at stated intervals the officers of the company have at all times a definite estimate of each employee's qualifications and abilities. For example, a list of all conductors on a division is made with a figure following each name as follows: 482—The four indicates that four individual progress reports have been made on the conductor and that the average of these four reports was 82. Such a report would at once indicate the conductors on the division who had the poorest qualifications in the judgment of the men best qualified to judge. These men could be singled out for special supervision and training, and thus the service would be improved. On the other hand, if it was desired to select a conductor for promotion the list would show the men having the highest qualifications and a number of these could be given special study to determine which was best qualified to undertake more responsible work.

It is not asserted that this method will entirely eliminate that prolific source of trouble—prejudice. However, it has been proven in industrial plants which have adopted this method that the evil effects of prejudices have been very largely eliminated. The fact that these opinions must be recorded and signed will do much to reduce the degree of prejudice expressed. The further fact that the supervising officer making the report knows that his report will be checked against reports made by other division officers, and some of them his superiors, will be an incentive to study his men closely and express his very best judgment in making the report. An important feature of this method is the defining of the qualifications named on each card. Each supervising officer making these reports will have the same understanding of the qualifications named.

With the information obtained from this system of rating available the personnel officer or any other officer of the company would know where to concentrate his efforts. It would probably be advisable to establish a minimum rating of, say, 60, and any employee who fell below this would be discharged from the service automatically. When an employee's rating fell to, say, 75, he could be given special consideration, his faults could be pointed out and he could be given instructions for improvement. I believe that if this system of rating is fully developed and put in operation it will supplant other systems of discipline now in use.

Service

The service division of a personnel department would have charge of safety, sanitation, health, housing and any other matters that directly affect the welfare or contentment of employees. Safety work is well organized and needs no comment. Sanitation on a number of roads is handled in connection with safety, but has not been given the attention it

deserves. A sanitary inspector should be employed on every railroad and his work should include all questions of sanitation affecting either the employees or the public. Most railroads have a well-organized medical or hospital department, and the necessity for it is generally recognized. The work of this department should include a periodical examination of all employees not only as to sight and hearing but as to general physical condition.

The question of housing is of great importance and has been neglected on most railroads. Employees will not be satisfied or contented in their employment if their living conditions are unsatisfactory. In cases where the railroad furnishes living quarters for section foremen, agents or others, these quarters should be such as to meet the ordinary man's idea of a home. A standard railroad house with standard paint, set beside the track, will not meet this condition. Few women are contented to live and raise families in such houses, and if the wife is not contented the husband will be discontented as well.

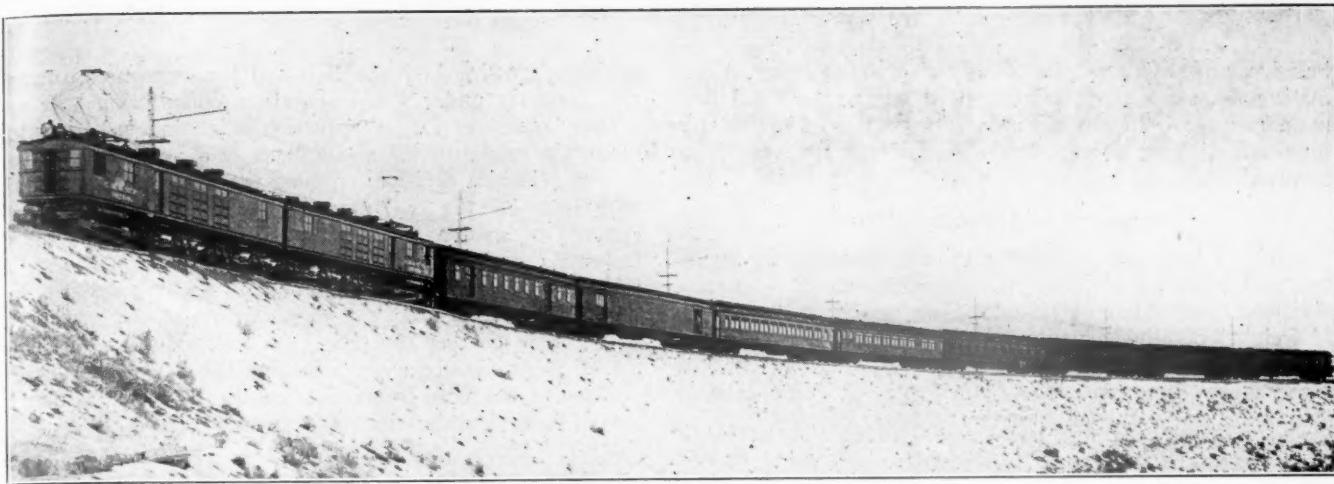
Railroad companies should make provision for taking care of employees to whom they do not furnish living quarters. This could be done by setting aside a sufficient sum of money as a revolving fund to buy property and build houses to be either rented or sold to employees. Such a fund should be placed in the hands of a competent business manager and handled separately from other railroad business. It could be made to pay a nominal dividend.

Relationship to Other Departments

It is apparent from the foregoing that a personnel department would necessarily work in very close co-operation with all other departments. It would relieve the other departments of the responsibility and work of employment and it would assist in handling discipline. If any department head was dissatisfied with an employee, the employee could be sent to the personnel department with a statement of the trouble and he could be placed in some other class of work. By making transfers of this kind a large number of employees would eventually be placed where they would render the best service. When fully organized the personnel department would handle all personal grievances of employees and thus relieve operating officers and allow them more time to attend to other problems.



Impoverished Steed (to Overfed Driver)—"If You Would Ride Me, You Must Also Feed Me"



Electric Passenger Train on the Rocky Mountain Division of the St. Paul

Notes on the C. M. & St. Paul Electrification*

Delays Reduced While Locomotive Maintenance and Train and Engine Crew Expense Is Decreased

By R. Beeuwkes

Electrical Engineer, C. M. & St. P.

THE ELECTRIFIED TERRITORY of the Chicago, Milwaukee & St. Paul now extends from Harlowton, Mont., to Avery, Ida., and from Othello to Tacoma, Wash., a total distance of 645 route miles, or of about one-third more track miles.

The first portion to be put into electrical operation was that between Three Forks and Deer Lodge, the west sub-division of the Rocky Mountain division. This was in December, 1915. The second portion, Three Forks to Harlowton, the east sub-division of the Rocky Mountain division, began to be electrically operated in April, 1916, and the section from Deer Lodge to Avery, the Missoula division, in November and December, 1916.

Electric helper service was installed on the Saddle mountains, west of Othello, in August, 1919, and on the Cascade mountains in November of the same year. Electric road freight service is being installed as rapidly as the conversion, by change of gear ratio, of the original passenger locomotives of the Rocky Mountain and Missoula divisions into freight locomotives will permit. Regular electric passenger service west of Othello was started in March of this year. This section now comprises the west sub-division of the Columbia division, extending from Othello to Cle Elum, and the coast division extending from Cle Elum to Tacoma and Seattle, two engine divisions, but the entire district will shortly be merged into and operated as one electrified division.

The following general notes regarding some of the items of a list suggested as representing matters of particular interest in connection with electrification work are based on experience with the above installations.

First Costs

The electrification work on the Rocky Mountain and Missoula division was carried on during the years 1914, 1915 and 1916, when labor and material conditions were comparatively stable and arrangements for the supply of both could be

made in such a way as to avoid the delays to which the work west of Othello, carried on largely during the war, was more or less subject. Costs for the former work are, therefore, believed to be the more capable of application of the necessary corrective factors corresponding to present and other assumed price standards and approximate figures are given in Table I.

TABLE I

Item	Average cost per route mile	Various average unit costs	Per cent item cost to total, excl'd locomotives
Trolley system complete.....	\$8,390	.....	.47.7
Transmission system complete.....	2,360	.....	13.3
Per mile of transmission line.....	.....	\$2,835.00	.....
Sub-station layout complete.....	6,050	.....	34.4
Per station .....	.....	189,400.00	.....
Per kw. ....	.....	45.00	.....
Sub-station building and grounds:			
Per station .....	.....	38,400.00	.....
Per kw. ....	.....	9.50	.....
Operators' dwellings, etc.:			
Per station .....	.....	6,100.00	.....
Per kw. ....	.....	1.50	.....
Sub-station apparatus:			
Per station .....	.....	144,900.00	.....
Per kw. ....	.....	34.00	.....
Miscellaneous, including right-of-way, changes in telegraph and telephone lines to clear transmission and trolley, store-houses, minor apparatus at shops and roundhouses, etc.	265	.....	1.7
Engineering and administration, except that for drafting and inspection for sub-stations, charged direct.....	514	.....	2.9
Locomotives, including transportation, messenger and miscellaneous charges:			
Per road locomotive.....	.....	122,500.00	....
Per switching locomotive.....	.....	37,700.00	....
Total per route mile, excluding locomotives 17,579	.....	100.00	.....

The figures shown in Table I, without a detailed knowledge of the labor and material figures on which they are

*A paper presented before the 43rd annual convention of the National Electric Light Association held at Pasadena, Cal., May 18-22.

based, would, of course, be of only very rough value in estimating the costs of electrification in other cases, and their main purpose is to give an approximate idea of the relative importance, from a cost standpoint, of the different items involved.

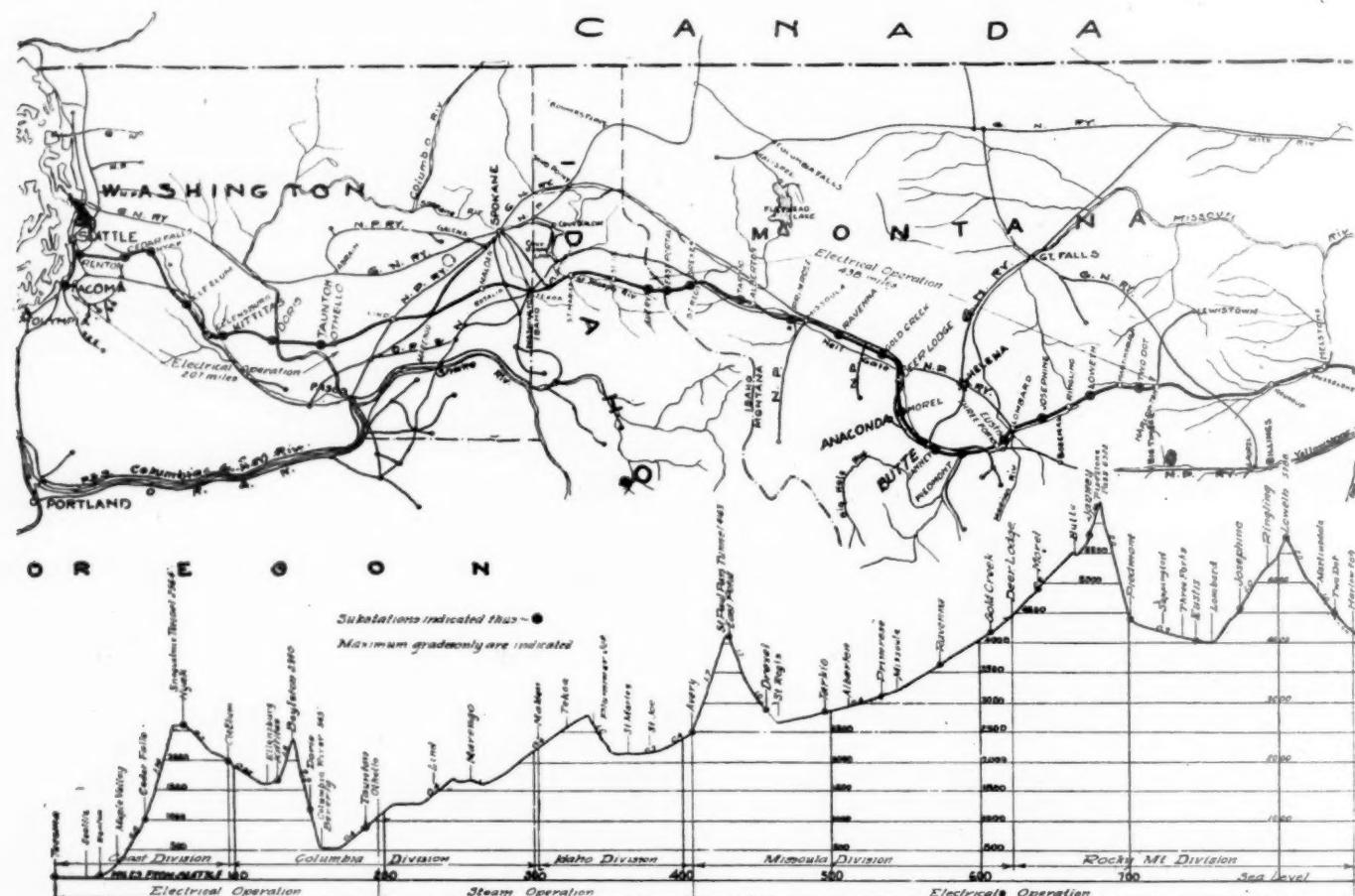
Comparative Operating Costs

Table II indicates, as between the electrified Rocky Mountain and Missoula divisions and the adjacent steam-operated divisions, the relative magnitude of the more important items of freight operating expense, which are affected by the type of motive power employed, costs for the Missoula division being taken as unity. The figures apply for the last six months of the year 1918, this period being taken due to the

division, crossing both the Belt and Rocky mountain ranges, and formerly under steam operation, constituting "the neck of the bottle" as far as operation was concerned, has long mountain grades of 1.7 and 2.0 per cent.

The Missoula division, crossing the Bitter Root mountains with long 1.7 per cent grades, would not from the profile appear to involve as difficult operating problems as the Columbia division with its long 2.2 per cent grade on the east slope of the Saddle mountains and its comparatively long 1.6 per cent grade on the west slope, but the much more unfavorable weather and topographical conditions existing on the Missoula division more than offset the difference in grades.

Some of the more prominent reasons for the advantageous results secured under electrical operation are as follows:



Map and Profile Showing the Two Electrified Sections of the St. Paul and the Steam Operated Section Between Them

fact that the data had already been worked up for other purposes and was therefore most readily available.

TABLE II

Item	Columbia Division	Idaho Division	Missoula Division	Rocky Mtn. Division	Musselshell Division
Steam or electric locomotive repairs	\$1.97	\$2.34	\$1.00	\$0.86	\$2.26
Train conductors and brakemen	2.78	3.05	1.00	1.46	1.61
Train enginemen and motormen	1.84	2.17	1.00	1.30	1.21
Train locomotive fuel or power	2.05	2.34	1.00	1.04	1.38
Engine-house expense, train...	3.15	2.50	1.00	.80	3.71
Total yard service*	.78	1.12	1.00	.99	.71
Total of items of expense affected by type of motive power	1.67	1.90	1.00	1.11	1.33

*In 1918 a considerable portion of the switching was still done by steam, sufficient electric switching locomotives not having yet been received.

†Includes superintendence, maintenance of sub-stations, transmission and trolley systems, water and fuel stations, shops and engine-houses; also locomotive and train supplies, in addition to the items for which individual comparison is given in the tabulation.

In considering the above it should be noted, as shown on the attached profile, that the Musselshell division is of low grade, maximum of 0.4 per cent, while the Rocky Mountain

Cost of engine repairs per thousand-ton miles is much decreased, due to the fact that not only is the cost of repairs per engine mile of the electric locomotive much less than that of the average steam locomotive replaced, but the number of engine miles per thousand-ton miles is, on account of the greater capacity of the electric locomotive, much less. The engine miles per thousand-ton miles for the Missoula division under electric operation in the 1918 period taken above was only about 55 per cent of that of the latter half of 1915 under steam operation.

Train conductor and brakemen expense per thousand-ton miles is reduced under electrical operation, due to increased ton miles per train mile and increased train speed. This item for the Missoula division for the 1918 period was about nine or ten per cent less than that of the 1915 steam period, while the Idaho and Columbia divisions, still operated by steam, the expense per thousand-ton miles more than doubled.

Enginemen's expense decreased under electrical operation, due to the same causes which decrease trainmen's expense.

For the Missoula division this item increased only a few per cent for the 1918 period as compared with the 1915 period, while for the Idaho and Columbia divisions it practically doubled.

Regarding the items of train locomotive fuel, it should be stated that the factors given are based not on the actual cost of fuel for the particular divisions involved but on the average fuel price for the system. Cost of fuel haul is not taken into account.

The above is at best only an incomplete statement of some of the more direct benefits derived from electrical operation. Constant improvement is to be expected as further advantages are recognized and developed through operating experience.

Reliability of Service

The question of the relative reliability of steam and electrical operation is one that is frequently raised, and it is believed the "Recapitulation of Passenger Train Performance" shown in Table III will be of interest in this connection.

This recapitulation gives the delays to passenger trains, on basis of miles of line operated, for the various railway divisions of the St. Paul west of Mobridge. Similar information is not conveniently available for freight train performance, but delays to freight service would naturally be reflected in the passenger train performance.

power we have found by experience and estimates to be so reduced and the benefits indirectly obtained to be so great as to render justifiable, even with the increased investment charges, the serious consideration of indefinite extension of electrification, even for lighter grades.

The Ninth International Railway Congress

LWEISSENBRUCH, secretary of the International Railway Association, 11 Rue de Louvain, Brussels, Belgium, has issued a list of questions to be discussed at the ninth congress of the Association, which it is proposed to hold in Rome, Italy, from April 18 to May 1, 1922.

Following are the principal heads in the program of subjects, with names of the men who are to prepare papers, where these are given. Where the letter "X" is shown the "reporter" is to be a person, yet to be appointed, from the country named.

Section I: Way and Works

Construction of roadbed and track: Denmark, Sweden and Norway; K. Ahlberg, Swedish State Railroads. Great Britain, E. F. C. Trench, L. & N. W. America, X. Other

TABLE III

Recapitulation of "Passenger Train Performance." Showing Delays to Passenger Trains on the Basis of Miles of Line Operated: Lines West of Mobridge; Months October, November and December, 1919, and January, February and March, 1920

Division	Delayed time in minutes per mile of line operated				
	Mobridge to Marmouth Steam 190	Marmouth to Harlowton Steam 340	Harlowton to Avery Electricity 437	Avery to Cle Elum Steam* 325	Cle Elum* to Seattle Steam 90
Motive power					
Miles					
Item					
1. Meeting and blocked behind passenger	18.83	11.33	15.15	10.33	12.60
2. Meeting and blocked behind freight	14.03	5.88	6.49	1.98	2.89
3. Extra cars	1.33	0.58	0.02	2.35	1.37
4. Excess time switching	1.35	2.69	2.16	1.54	4.51
5. Electric block signals	0	0.13	9.52	4.07	10.62
6. Slow orders	4.54	1.37	1.29	0.33	5.38
7. Bad weather and poor coal	109.2	13.59	3.53	3.48	4.91
8. Engine condition	20.92	25.20	11.43	9.39	10.54
9. Accidents and derailments due to engine	2.63	2.25	0.15	3.85	2.05
10. Trolley and sub-station	0	0	3.93	0.03	0
11. Total of items 1 to 10 inclusive, which are affected by the type of motive power used	172.65	62.95	52.73	35.34	54.93
12. Average of items 1 to 10 inclusive, for the four steam divisions	74.75				
13. Awaiting connections	0	1.16	0.02	1.82	1.94
14. Handling extra heavy bag mail and express	6.79	3.26	2.09	1.20	0.97
15. Extra stops for passengers and railway crossings	0.92	0.97	1.99	0.22	1.13
16. Car conditions	8.63	18.05	9.75	6.87	6.10
17. Accidents and derailments not due to engine	27.69	12.51	17.75	14.63	30.49
18. Slides, earth, rock and snow	2.53	0	3.64	3.86	13.80
19. All other causes	11.30	1.78	11.03	4.91	9.95
20. Total of items 13 to 19 inclusive, which are not affected by the type of motive power	57.80	37.85	46.30	33.86	103.69
21. Average of items 13 to 19 inclusive, for the four steam divisions	46.77				
22. Total of all items	230.45	100.80	99.03	69.20	158.62
23. Average of items 13 to 19 inclusive for the four steam divisions	121.52				
24. Minutes lost on schedule running time per mile of line operated	205.5	69.7	8.94	0.00	162.2
25. Minutes made up per mile of line operated	46.6	35.6	100.00	81.00	11.54

*Electrical operation commenced in March.

It will be noted from item II that the electrically operated territory shows less time delayed than any of the steam operated divisions, except that between Avery and Cle Elum, a district particularly favored as regards its freedom from climatic, topographical and other conditions which tend to cause delays. Attention is also called to the favorable showing, for electricity, of items 24 and 25.

Conclusion

In no respect have the results of the electrification failed to equal the expectations of the railway organization, and in most respects these expectations have been far exceeded. The extent of the electrification is such as to leave no doubt as to the practicability of indefinite expansion with an insurance of increased reliability and safety and a marked and determinable increase in capacity. Items of operating expense dependent on whether steam or electricity is used as a motive

countries, Mr. Henry, Eastern of France, and Mr. Candelier, Northern of France.

Maintenance and supervision of track: Great Britain, C. J. Brown, Great Northern. America, X. Other countries, X (an Italian).

Special steels: America, W. C. Cushing, Pennsylvania. France, Mr. Mesnager. Other countries, Mr. Sand, Swiss State Railroads.

Reinforced concrete: Denmark, Sweden and Norway, C. Ernst, and P. M. Bulow, Danish State Railroads. Holland, C. Leemans, Holland State Railroad. Great Britain, W. W. Grierson, Great Western. America, G. A. Haggander, C. B. & Q. Other countries, Mr. Golard, Belgian State Railroads.

Section II: Locomotives and Cars

Superheaters, feed-water heaters, etc.: Countries using the English language, G. J. Churchward, Great Western (Eng-

land). Other countries, Mr. Lacoin, Orleans Railroad, France.

Locomotive trucks, axles and springs: Countries using the English language, George Hughes, L. & Y. Belgium, Denmark, Sweden and Norway, E. Minsart, Belgian State Railroads. Other countries, Mr. Bochet, inspector to the Minister of Public Works, France.

Passenger cars: Spain, Portugal, etc., F. de Vargas, Northern Railroad of Spain. Great Britain, R. W. Reid, Midland. America, X. Other countries, Mr. Biard, Eastern Railroad of France.

Electric Traction: Holland and Great Britain, J. J. W. van Loenen Martinet, State Railroads of Holland. Belgium, Ernest Gerard, Belgian State Railroads. Denmark, Sweden and Norway, Mr. Ofverholm, Swedish State Railroads. Italy, X. Switzerland, Emile Huber, Swiss State Railroads. America, George Gibbs, Long Island Railroad. Other countries, Mr. Sabouret, Orleans Railroad of France.

Section III: Operation

Operation of passenger terminals: Countries using the English language, X (an American). Other countries, X (an Italian).

Freight stations; organization, simplification of switching; mechanical appliances: Italy, X (an Italian). Countries using the English language, H. G. Kelley, Grand Trunk of Canada. Other countries, Mr. Moutier, Northern of France, and Mr. Jullien, Orleans Railroad.

Slow freight traffic; organization, speeds, make-up of trains, etc.: America, X. Belgium and France, X (a Frenchman). Great Britain, Sir H. A. Walker, L. & S. W. Other countries, Edilio Ehrenfreund, Italian State railroads.

Locomotive cab signals, including speed recorders: France, A. Herdner, Southern Railroad of France. Other countries, X (an Italian).

Section IV: General

Cost of transportation, passengers and freight; relation to rates: America, X. Other countries, Henry Gerard, Orleans Railroad of France.

Customs examination: All countries, Mr. Jourdain and Mr. Prudent, P. L. & M. (France).

Interchange of freight cars; penalties, demurrage, etc.: America, X. Other countries, Mr. Charron, Southern Railroad of France.

Workmen's dwellings: America, A. F. Banks, Elgin J. & E. Other countries, X (an Italian).

Section V: Light Railways

Passenger and freight cars; facilities for transhipment and change of gage: All countries, X (an Italian).

Operation, light railways; working rules; issuance of tickets, collecting fares, auditing. All countries, F. Level (France). Special methods of traction; America, H. B. Spencer. Other countries, X (an Italian).

Safety appliances; cheap appliances for light railways: All countries, Mr. Bonnevie, Brussels.

THE GOOD RAILWAY SERVICE ASSOCIATION, of California, recently organized to assist in the solution of various railroad problems in regard to shortage of cars, industrial disturbances and other factors consequent upon the return of the roads to private control, has instituted a campaign to help relieve the car shortage emergency. Attractive posters, reminding shippers that an increase of two tons per loaded car will add 200,000 cars at once to those now available for public use, are being displayed at all important loading points in the state. The Southern Pacific and other railroads have cooperated with the association and have instructed agents to display the association's posters. Headquarters for the association are in San Francisco.

Accident Bulletin No. 73

THE INTERSTATE COMMERCE COMMISSION has issued its quarterly Accident Bulletin, Number 73, dated April 19, 1920, giving statistics of railroad accidents in the United States in the months of July, August and September, 1919. The total number of persons killed in train accidents in the quarter under review was 156, and of injured 2247; and the total number of casualties on the railroads of the country from all causes, in that quarter, was 43,180, as shown in the table below. The term "other persons" includes, under the head of trespassers, some employees.

A comparison with the corresponding quarters of 1918 and 1917 appears, as follows:

CASUALTIES IN THREE MONTHS—JULY, AUGUST, SEPTEMBER

	1919		1918		1917	
	Killed	Injured	Killed	Injured	Killed	Injured
In Train Accidents—						
Passengers	17	1,294	129	1,118	39	1,406
Employees	126	904	153	939	108	995
Other persons.....	13	49	66	90	48	160
Total	156	2,247	348	2,147	195	2,561
In Train-service Accidents—						
All classes.....	1,607	12,491	2,081	14,299	2,524	16,309
Total	1,763	14,738	2,429	16,446	2,719	18,870
In Non-train Accidents.....	116	26,563	171	29,180	122	31,967
Grand total.....	1,879	41,301	2,600	45,626	2,841	50,837

The number of collisions reported during the quarter was 2072, of derailments 4120, and of other train accidents 899, and the total damage to railway property was \$6,403,750. This sum is no less than 32.6 per cent more than the corresponding total for the quarter immediately preceding; a difference entirely consistent with the well-known fact that the second quarter of the year always shows a lighter accident record than either of the other three quarters.

Reports of investigations of train accidents made by the Bureau of Safety are now printed in a separate publication and the present bulletin consists of only thirteen pages.

Reports of Accident Investigations

THE INTERSTATE COMMERCE COMMISSION has issued its "Summary of Accident Investigation Reports, No. 1," for the months of July, August and September, 1919, containing reports, made by the Bureau of Safety, on collisions and derailments investigated by the Bureau during the months named; the matter heretofore included in the quarterly statistical report of accidents.

This is a pamphlet of sixty pages, 6 in. by 9 in., and contains the reports noted in the table below. Some of these reports have been made public before, and in these cases the present record is somewhat condensed.

Road	Place	Date (1919)	Kind of accident
N. Y. Central.....	Dunkirk	July 1	Rear collision
Monong. Coun'g.....	Pittsburgh	July 9	Derailment
Union.....	Munhall, Pa.	July 14	Derailment
N. Y., N. H. & H.....	Montowese	July 14	Rear collision
Lehigh Valley.....	Upton, N. Y.	July 19	Rear collision
Phila. & Reading.....	Linfield	July 30	Derailment
N. Y., N. H. & H.....	E. Pt Chester	July 31	Rear collision
Nash. C. & St. L.....	Estill Springs	Aug. 1	Rear collision
Kansas City Southern.....	Lyons, Ok.	Aug. 2	Derailment
St. Louis-S. Fe.....	Adamsville	Aug. 9	Butting collision
Colo. & Southern.....	Walsenburg	Aug. 12	Derailment
Baltimore & Ohio.....	Parmaco, W. Va	Aug. 14	Street car struck loco.
Pere Marquette.....	Beitner	Aug. 20	Butting collision
N. J. & Seashore.....	Elwood, N. J	Aug. 24	Rear collision
St. Louis, S. W.....	Bassett, Tex	Aug. 24	Derailment
C. R. I. & Pacific.....	Hudson, N. M	Aug. 27	Derailment
Delaware & Hudson.....	Carbondale	Sept. 1	Rear collision
Baltimore & Ohio.....	Brooklyn, O	Sept. 15	Butting collision
Wabash.....	St. Louis	Sept. 18	Derailment
Great Northern.....	Warland	Sept. 19	Rear collision
N. Y. Central.....	Buffalo	Sept. 19	Rear collision
Phila. & Reading.....	Belfry, Pa	Sept. 21	Butting collision
Baltimore & Ohio.....	Confluence	Sept. 23	Derailment
Seaboard A. L.....	Seacoast	Sept. 27	Derailment
Central New Eng.....	Holmes	Sept. 29	Rear collision

There are twenty-five reports, covering ten rear collisions, four butting collisions, ten derailments and a collision with a

June 18, 1920

RAILWAY AGE

1927

street car. The monthly accounts of train accidents published in the *Railway Age* for the quarter under review will be found in the volume for that half year, as follows: July, page 579; August, page 750; September, page 939.

The Car Record Office of the A. E. F.

By G. W. Wright

Chief Clerk to the Superintendent of Car Service, Long Island Railroad, Jamaica, N. Y.

THE CAR SERVICE DEPARTMENT of the American Expeditionary Force had to be developed in a country where the system of controlling car movements by the aid of records from a central point was practically unknown, and a review of its operations affords an interesting study. The French have no system of keeping track of cars from a central point.

The army had just about commenced its enlarged program of rushing troops and supplies to Europe when it was discovered that many important shipments which were urgently needed had been lost and it was impossible to locate them without long and extensive search by following the car from its originating point, from junction to junction; and frequently this method met with no success. To correct this condition the Car Record Office was established by an order from General Headquarters dated January 30, 1918. The duties of the Car Record Office were clearly set forth and would serve as model instructions for any railroad. Briefly, the order directed that all departments of the army co-operate with reports so that the efficiency of available car supply could be increased to the utmost. At all times in France there was a serious shortage of cars.

At this time the American freight cars had not been built and European cars had to be used. As the army was only interested in these cars while they contained American freight, a system of individual car records was devised. Station numbers were based on the number of miles from the port, preceded by a letter indicating the branch of the railroad. A railroad transportation officer (R. T. O.) at the shipping point (or if no R. T. O. was stationed there, the commanding officer making the shipment) wired the car record office daily the initial, number, contents, consignee, destination and train on which forwarded, of every car shipped. Passing records were wired from important junction points. When the car reached its destination the transaction was completed and the record card was filed. But this system proved burdensome, and plans had been devised for a book system when the war ended and all plans for improvement were dropped.

In the spring of 1918 U. S. A. cars began to come over rapidly. Consecutive movement records of U. S. A. cars were from the start kept in book form, similar to those used in the United States. As the volume of traffic increased, solid convoyed trains were run from the ports to the regulating stations. These trains carried a symbol number for the entire trip and were reported by wire at passing stations along the line, so that practically the records of cars in such trains were instantly available. About August, 1918, full American crews were placed on many trains, and from these a standard cut-up mileage report was made by the conductor.

A special tracing bureau in the car record office was established, for which were assigned a large number of commissioned officers familiar with French railroad customs and geography. Shipments were traced all over France and Belgium, and later in Germany. The tracing bureau was in operation 24 hours daily and rendered most valuable service locating and expediting urgently required shipments. Delays were followed up vigorously. Officers on outside duty were required to investigate and take action to correct delays.

In Europe there is no standard system of marking cars, and the letters and figures are very small, leading to many

errors in reporting. The standard lettering of American cars is warmly appreciated by any one who had to take yard checks in France.

Approximately 19,500 American cars were in service. In addition to this, large numbers of British, French, Italian, Swiss, Belgian and German cars were required to transport the enormous tonnage required by the American army.

The number of cars in service constitutes only a partial index of the work of the car record office, as it had also to keep account of the thousands of tarpaulins used with open cars to cover freight liable to damage by water.

Officers newly arrived from the United States were in many instances assigned temporarily to the car record office, as it afforded the best and quickest way to become familiar with French railroad geography.

The French and British made exhaustive studies of the American system of recording and applying car records; but they seem to hesitate at its adoption because of the expense. It is certain, however, that the more efficient use they would make of their cars would largely offset the expense.

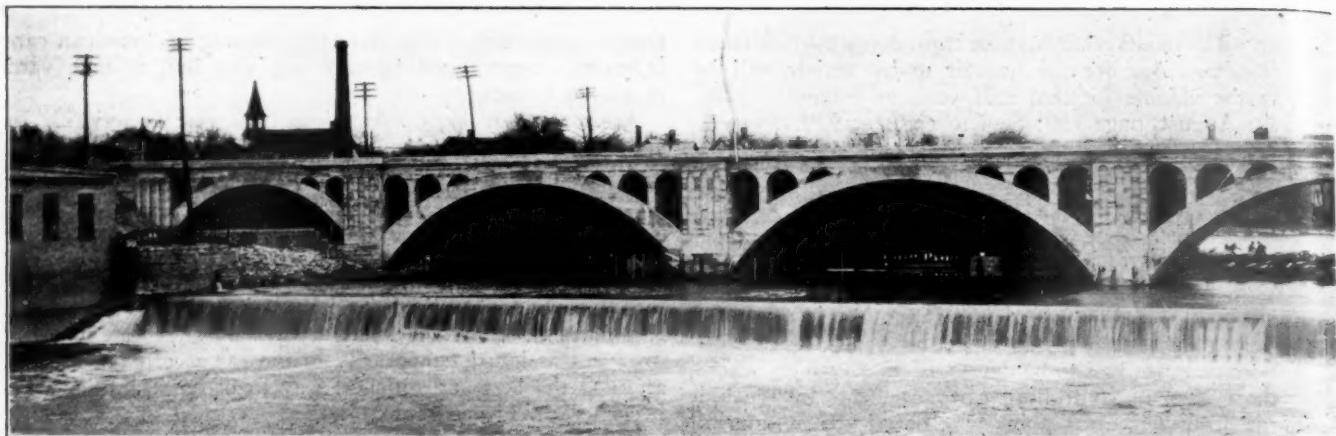
Accounting for Maintenance Expenditures

THE INTERSTATE COMMERCE COMMISSION Division No. 4, has issued the following notice regarding its interpretation of Paragraph (3) of Section 209 (f) of the Transportation Act, 1920, dealing with the method of computing railway accounting income for the guaranty period, from March to August, 1920, inclusive, which reads as follows:

'There shall not be included in operating expenses, for maintenance of way and structures, or for maintenance of equipment, more than an amount fixed by the commission. In fixing such amount the commission shall so far as practicable apply the rule set forth in the proviso in paragraph (a) of section 5 of the "standard contract" between the United States and the carriers (whether or not such contract has been entered into with the carrier whose railway operating income is being computed).'

The notice says: "The commission, having received from various carriers inquiries regarding procedure under the above provision, announces it will fix the amount of maintenance that may be included in operating expenses for the purpose of determining if the operating income for the guaranty period as a whole for any carrier is in excess of or below the amount of the 'guaranty,' on the basis of one-half of the average annual maintenance expenditures and charges of each carrier for the three years ended June 30, 1917, properly equated in accordance with the rule set forth in the proviso in paragraph (a) of Section 5 of the standard contract. The carriers are invited to submit briefs to the commission, on or before July 17, 1920, setting forth their views with respect to the interpretation and application of said proviso in this connection."

"The foregoing is not to be construed as prohibiting any carrier from expending for maintenance purposes such amounts as it sees fit, but it should be understood that in computing railway operating income for the purpose of determining whether such income is in excess of or below the amount of the 'guaranty,' the commission will not allow for maintenance any amount in excess of the amount fixed by it. The charges to operating expenses should be made in accordance with the accounting regulations of the commission regardless of the limit for maintenance hereafter to be fixed in computing the amount of the guaranty under Section 209. In other words, it is not expected that the operating income reported monthly will, without modification, necessarily indicate the operating income which will be used in computing the amount of the guaranty."



North End of Completed Bridge

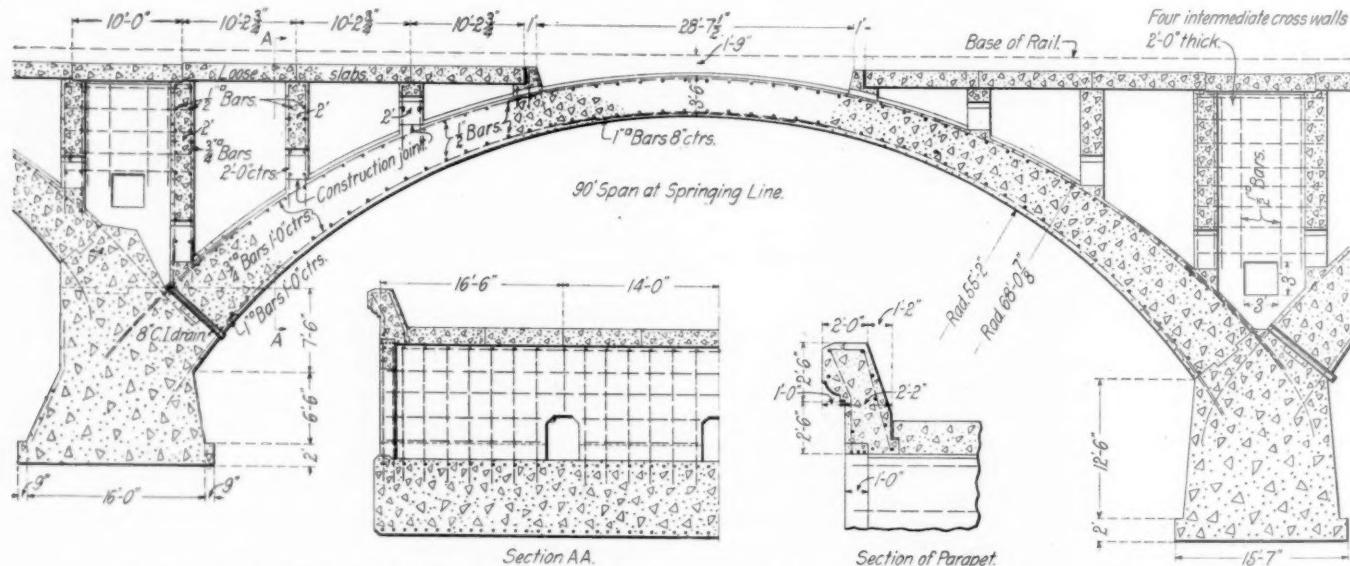
Train Movements Facilitated By New Bridge

Illinois Central Completed Four-Track Reinforced Concrete Structure at Kankakee, Ill.

TRAFFIC CONDITIONS on the Chicago-New Orleans main line of the Illinois Central have been greatly relieved in the vicinity of Kankakee, Ill., by the completion of a new 4-track reinforced concrete arch bridge over the Kankakee river at that point. The new bridge replaces a three-span, through-truss structure over which traffic has been handled for the past 34 years, more recently by means of gauntlet tracks, governed by interlocking. This arrangement proved inadequate to meet the demands upon it and in order to improve conditions at this point a new structure was designed and

industrial plants located on one side of the river and the freight yards on the other. The congestion was further aggravated by the handling across this bridge of interchange freight between the Illinois Central yards and the Big Four freight houses. As a result of these conditions it was decided to build a structure which would not only take care of the present traffic conditions but which would be entirely adequate for any further increases that might be expected in the near future.

The conditions surrounding the construction of the new

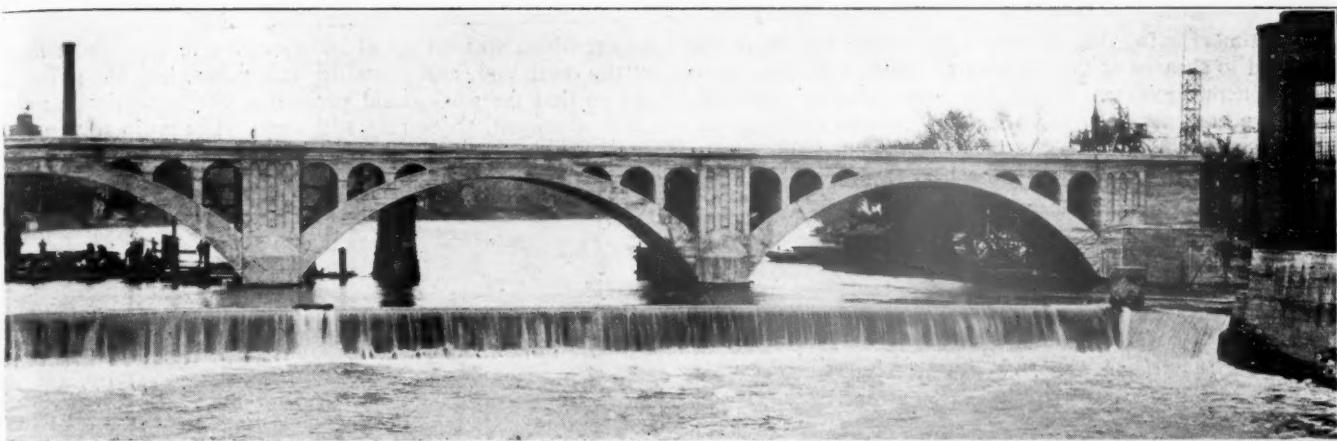


Part Longitudinal Section Through the Bridge, Showing Details of the 90-ft. Arch the Spandrel Construction

constructed in two double-track sections, making a completed structure 62 ft. wide and 626 ft. long.

Since the double tracking of the main line of the Illinois Central from Chicago to Cairo, Ill., in 1900-1902, the congestion over this old structure gradually became worse until it reached a point where serious delays were occurring. This was due primarily to the increase in the amount of through freight hauled over this section of the main line but was augmented by the large amount of switching between the

bridge made it imperative that a design be selected that would not interfere in any way with the already existing track arrangements during the period of construction. The main line of the Illinois Central through Kankakee is on a tangent with the station and numerous other buildings on the east of it. This made it necessary that all new work be carried on to the west of the main line. The amount of freight handled at this point practically limited the size of the structure that could be built to a minimum of two tracks,

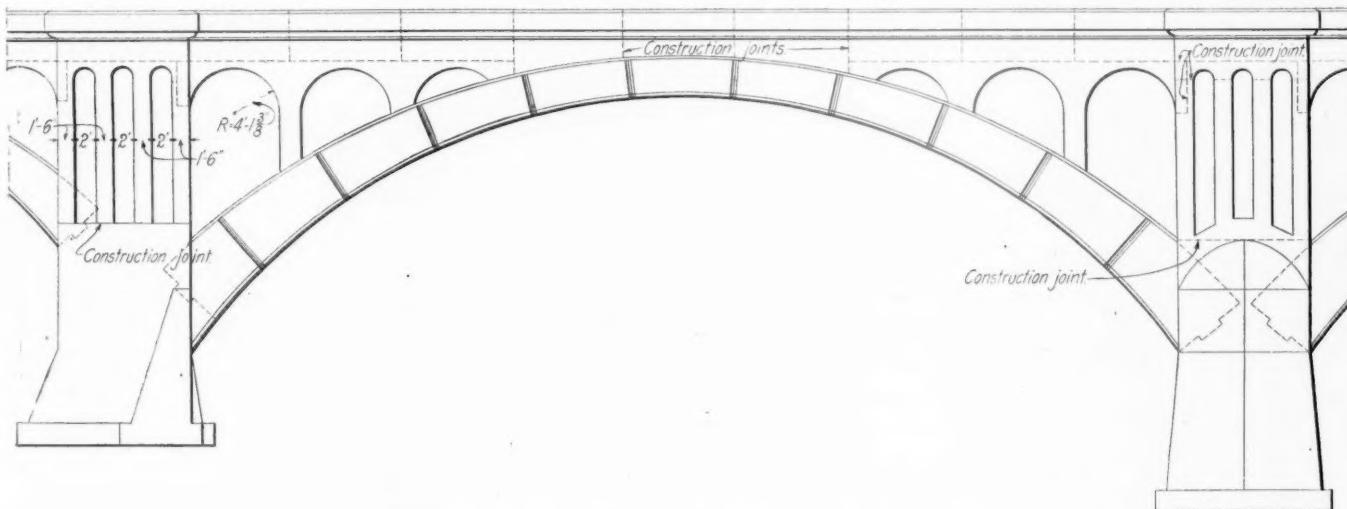


South End of Completed Bridge

and so it was decided to build a double-track structure to which a second section of the same capacity could be added after the first had been completed and the old steel bridge removed.

The type selected consisted of a reinforced concrete open spandrel arch bridge having five arches of 90-ft. span and 23-ft. rise over the river and one of 60-ft. span and 14-ft. 6-in. rise over a street car line which parallels the north river bank at this point. All arches are segments of a true circle, the two arch rings having a minimum depth at the top of 3 ft.

In order to secure the proper proportions in the arches the grade was raised three feet at this time and in this connection the dead load was so figured as to make allowance for a possible future additional raise of 10 ft. This future raise also influenced the choice of track slabs above the main arches rather than spandrel arches, as the spandrel walls can be built higher and the track slabs used again. With this in view, construction joints were made at the ends of the spandrel arches and at the top of the panels in the piers, while the parapet was built in sections with papered joints



Elevation of the 90-ft. Arch Adjacent to the 60-ft. Span

6 in. and 2 ft. 6 in., respectively. The arches are supported by four river piers, one shore pier and two abutments, of which the four river piers were so located that they could be constructed in their entirety without interfering with the old masonry piers.

Design Influenced by Possibility of Future Grade Change

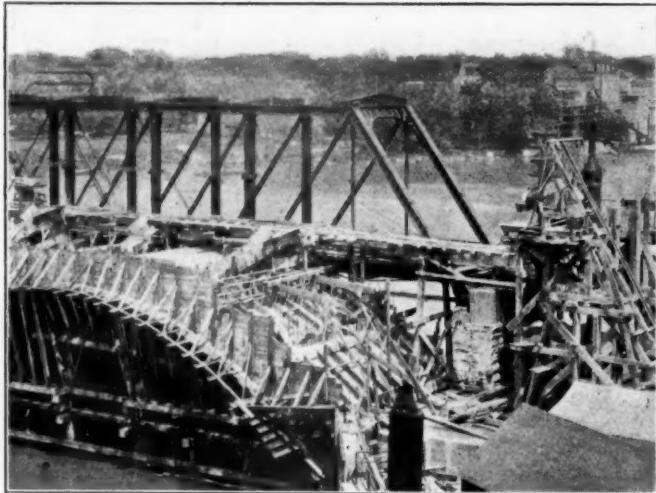
Except for a length of 28 ft. on the crown where the filling rests directly on the arch, the track on the 90-ft. arches is carried on spans of reinforced concrete floor slabs which rest on eight transverse walls, 10 ft. $2\frac{3}{4}$ in., center to center. These walls are built monolithic with the arch but the slabs are of unit constructure cast separately and set into place. On the two sides of the structure the tops of the spandrel walls are joined by a parapet built in place, the junction of the parapet and walls being filleted by false arches. Similar construction was used for the 60-ft. arch.

at all surfaces of contact to facilitate removal and replacement.

The actual work of construction began in September, 1917, when a temporary side track was laid to the south approach of the proposed bridge for the delivery of the necessary construction materials. Owing to the restricted space between the embankment at this point and an adjacent street some difficulty arose in developing an economical method of unloading the materials from the cars set out on the material track. This resulted primarily from the refusal of property owners across the street to allow the guy wires of an unloading derrick to be run across their land. In order to overcome this, a stiff-leg derrick was erected, which is of interest.

Two heavy concrete footings were set along the shoulder of the embankment, about 50 ft. apart and approximately 68 ft. from the location of the mast. Two 4-post towers about 50 to 55 ft. in height were then erected on these footings and connected to the 75-ft. mast by a 12 in. by 12 in.

trussed timber, after which wire cables were run from the masthead to sheaves at the top of each tower, and then down to the concrete footings, where they were securely anchored. This permitted the operation of a 65-ft. boom and a clamshell bucket, the range of the boom being but little over a semi-circle. Any tendency for the back legs of the derrick



The Main Mixing Plant and Delivery System

to tip up with the boom swung in an extreme position was prevented by the tension of the cable running over the back leg more nearly opposite the line of the boom. By means of this

mixer, which was set up at the elevation of the bridge floor on the south end, and a smaller mixer installed at the north end so that the work could proceed at the same time on the north abutment, shore pier and arch. The main mixer dis-



The Stiff-Leg Derrick

charged directly into industrial side-dump cars, which were operated on a narrow-gage track cantilevered from the west side of the old steel bridge. Other materials were transported



The Second Section Near Completion

arrangement the unloading of open top cars was greatly facilitated, the bucket picking up the material and dumping it into pre-arranged stock piles and later, or as called for, delivering it to the material bin for charging the main mixer.

The mixing plant consisted of a $\frac{1}{2}$ cu. yd. steam-driven

from the shore to the sites of the cofferdam by three material barges, and in addition, two derrick barges and two workers barges were also built to facilitate the erection of the false-work, etc.

The river bed at this point is solid rock with practically

no silt deposit, the water being kept at a minimum depth of 11 ft. by a power dam located a short distance downstream. Puddled cofferdams were used, with two walls of 3-in. sheet piling spaced 7 ft. apart around the entire dam, and the intervening space filled with clay. The sheet piling was assembled in 20-ft. sections, this work being done on the material barges which were towed to the location of the piers and the section lowered into place by the derrick barges. A diver was employed throughout the work to see that the sheeting was closed at all points, and that no obstructions prevented it from resting directly on the bed of the river. The wales were 10-in. by 10-in. timbers. The clay filling was brought out by the barges and unloaded by a clam-shell bucket. This construction proved very satisfactory, for little seepage developed during the work and no appreciable damage resulted during a short period when the river was frozen over.

The placing of the pier foundations was preceded by the removal of the surface rock to a depth of two feet, the pits so excavated by drilling and blasting being 80 ft. long and about



Placing the Concrete Deck Slabs

16 ft. wide. Each of the pits made in this manner was filled with concrete to form the footing for the river piers. In the case of the two abutments and the shore pier, only the west half of the work could be completed, the remainder being left until the old bridge could be dismantled and the masonry removed. In order to secure the maximum allowable width, both during the construction of the abutments and of the arch rings, the old piers and abutments were cut off flush with the west edge of the steel bridge. After the foundation footings were in place the work of pouring the piers and abutments proceeded rapidly, the preliminary work on them being considered complete when they reached the height of the skew-backs.

Falsework Was Re-Used in the Second Section

As soon as the first abutment and pier were approaching completion the erection of the falsework was begun. All of the details of this had been worked out carefully in advance and the contractors were required to follow the plans exactly, as it was necessary that the material should not only be interchangeable, but also easily dismantled so that it could be used again in the construction of the second half of the bridge. In order to accomplish this all parts had to be drilled for bolts.

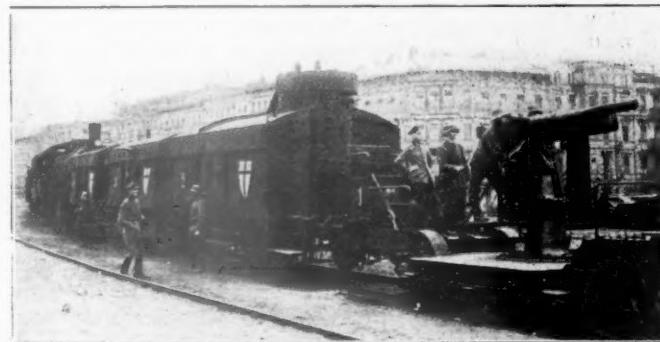
To facilitate this work an electrically driven drill was mounted in a light frame which acted as a guide to insure the drilling of the holes perpendicular to the surface of the timber.

The arch centering was supported on pile bents spaced 12 ft. apart with piles 4 ft. center to center in the bents. The small amount of sedimentation on the river bed rendered it difficult to obtain a substantial support for the bases of the piles, and in several instances it became necessary to anchor the bents in position until the caps and stringers could be fastened.

The sections of the arch ring were poured alternately, commencing at each pier and working towards the center. The construction of the spandrel walls and the parapet followed the completion of the arch rings, making a completed section 28 ft. wide with finished surfaces on the west side and a vertical surface on the east, to which the second section could be bonded, the necessary reinforcing rods being extended through the bulkhead for this purpose. Each section of the falsework was left in place until the adjacent ring could be completed, and in addition a minimum period of 42 days after pouring was required in order to allow the concrete to set thoroughly. The bridge floor consisted of heavy concrete slabs, which had been cast in a nearby yard, the largest of the slabs being approximately 10 ft. 2½ in. long, 6 ft. 11¾ in. wide, and 1 ft. 6 in. thick. The laying of the tracks and the ballasting followed immediately, and by October, 1918, the west half of the bridge was completed and the first train permitted to pass over it.

The three truss spans were next dismantled and the masonry piers and foundations removed. The mixing plants were brought into position at the ends of the new second section and the falsework and centering, which has been carefully taken down and stored, were again set up, the additional width of the second section making it necessary to use some of the material a third time before the work could be completely finished. The construction methods followed closely those used in the first work, the concrete being delivered in a similar manner by cars operating on a narrow-gage track supported by heavy timbers held in place by the deck slabs. No difficulties of any consequence were experienced in the final work on the bridge, the construction of the second half of the abutments and the pouring of the sections being accomplished in a satisfactory manner.

The Kankakee bridge was designed by and constructed under the direction of the engineering department of the Illinois Central; F. L. Thompson, chief engineer, and C. C. Westfall, engineer of bridges, with J. H. Graham, resident engineer in charge of the field work. The contractors were the Gould Construction Company and the Walsh Construction Company, of Davenport, Iowa.



Photograph from Underwood & Underwood, N. Y.

Heavily Armored German Car Passing Through Berlin During the Recent Revolution

Car Service

WASHINGTON, D. C.

A MARKED improvement in clearing up the congestion of freight cars caused largely by the switchmen's strike was noted in the report of freight car accumulations received by the Commission on Car Service for the week ended June 4. The accumulations had been reduced to 125,606, as compared with 159,000 for the preceding week. The accompanying chart, prepared from reports received by the Commission on Car Service and the Interstate Commerce Commission, showing the extent of the accumulations since the first of the year, shows in a graphic way the effect of the strike, which began about the first of April, and the rapid improvement made since the peak on April 16, when the total accumulation was 290,000. The accumulation of 125,000 cars on June 4 indicates a condition not much worse than that which the railroads inherited from the United States Railroad Administration on March 1, when the total was about 105,000. The figures refer to the number of cars held in greater numbers than could be handled or disposed of currently.

The deferred car requisitions, however, are showing a slight increase. For the week ended June 1 the total for the United States was 105,807, including 31,681 coal cars, and the total including Canada was 113,189. At the same time there was a surplus of 1,853 cars. For the first week of May the deferred car requisitions averaged 79,272, and for the week ending May 23 this had increased to 98,936.

The Interstate Commerce Commission on June 9 issued its first preference and priority order for the purpose of promoting the pooling of lake cargo coal in a manner similar to that followed after the United States entered the war. The railroads and the Commission on Car Service have been trying to bring about the formation of such a pool, but were hampered to some extent until the commission gave its encouragement to the plan by fear on the part of the coal operators of the interpretation some one might be inclined to place on it in connection with the anti-combination laws. The order, which is Service Order No. 5, gives preference and priority for pooled over non-pooled lake cargo coal and places the movement of non-pooled coal under the permit system under the direction of H. M. Griggs, manager of the Ore and Coal Exchange at Cleveland, who is also general coal agent of the New York Central. The commission held a conference on June 10 with the lake coal shippers and on the following day gave out a telegram received from Thomas K. Maher, chairman of the executive committee of lake coal shippers, advising that in accordance with the promise made to the commission the shippers had met and perfected arrangements for the complete pooling of all lake coal shipments for this season.

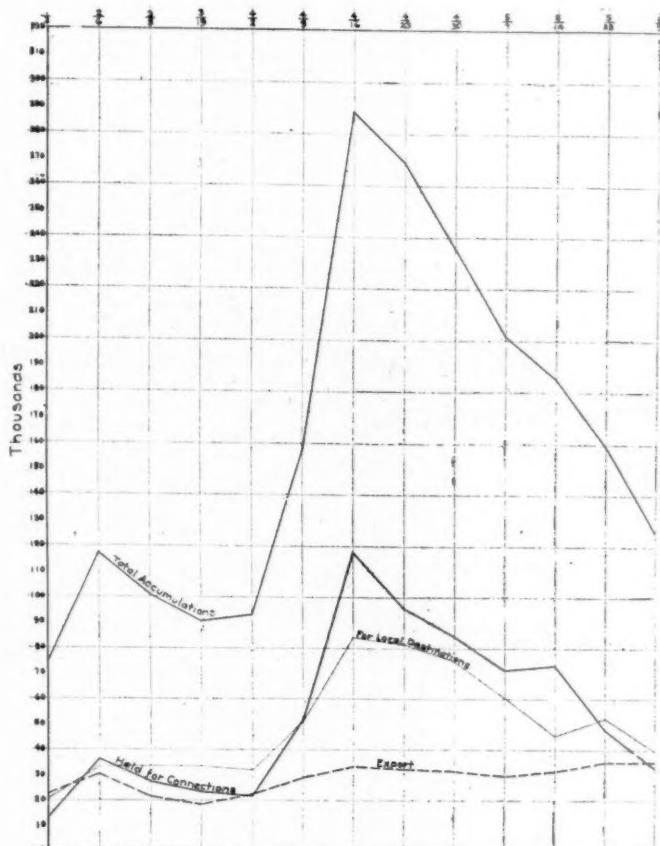
Service Order No. 5 states that in the opinion of the commission, because of the shortage of equipment and congestion of traffic which exists upon the lines serving the lake cargo traffic, an emergency exists which requires immediate action with respect to the transportation of bituminous coal to Lake Erie ports for transshipment by water. It therefore ordered the railroads, effective June 13 and until further order, in the transportation of bituminous coal consigned to Lake Erie ports for transshipment by water either as cargo or bunkerage coal, including the supply of cars therefor and the movement of such traffic, to give preference and priority to carloads consigned to Mr. Griggs at any Lake Erie port as a part of a pool or pools and to place an embargo upon the supply of cars for or the movement of all other bituminous coal in carloads for transshipment at Lake Erie ports except upon a permit and direction therefor issued by Mr. Griggs, who was designated as the agent of the commission therefor, and who was directed to issue permits only upon a showing that the consignees will be able to unload the coal without

delay to the rail equipment and without impeding the preference and priority for the pool coal.

The Interstate Commerce Commission on June 9 issued the following notice to carriers and shippers:

"Service Order No. 1 which ordered and directed common carriers by railroad to divert freight via the routes most available to expedite its movement and to relieve congestion also ordered and directed the carrier responsible for the diversion to mail a notice to the consignee of the traffic stating the car number, places and dates of shipment and other essential information. It has been urged that a telegraphic notice should be sent to the consignor by the carrier responsible for diversion as to shipments in private cars subject to equalization of empty mileage, and also as to fruits and vegetables, live poultry and other shipments customarily reconsigned upon instructions of the consignor.

"While the commission does not consider it necessary at



Principal Commercial Accumulation in 1920 Carloads

this time to amend Service Order No. 1 in this respect, it is of the opinion that a telegraphic notice of the diversion should be sent to the consignor by the carrier responsible therefor in the case of shipments in private cars, which are subject to equalization of empty mileage, and also of fruits and vegetables, live poultry and other shipments customarily reconsigned upon instructions of the consignor."

The Interstate Commerce Commission on June 11 sent to the Senate its reply to a resolution introduced by Senator Harding of Ohio inquiring by what authority it had issued its order of April 15 authorizing railroads to assign cars to mines for railroad fuel loading in accordance with previous decisions of the commission. The commission reviews the history of its orders and the litigation on this subject and says its order was issued in accordance with the authority conferred upon it by the transportation act and in accordance with its previous decisions which had been sustained by the

Supreme Court. In justification for its action the commission says in part:

"The rule of law on this subject thus established remained the controlling rule for carriers generally, and apparently without friction or controversy, until during the war and under the rules of the Fuel Administration, including its zoning system, and while the roads were under federal control, the rule was changed and the use of assigned cars for loading with railroad fuel was abandoned. This change was followed by the imperative necessity of railroads resorting to confiscation of coal in transit in order to keep their roads in operation. In many instances the coal was confiscated at the mouth of the mine. Those familiar with these subjects are apparently unanimous in saying that the practice of confiscation is attended by more evils than is the practice of assigned cars for railway fuel.

"When federal control terminated there was in effect on all roads under federal control a set of rules that had been formulated by the Railroad Coal Association, and in order that there might not be confusion because of different lines of action being followed by different individual roads the commission on March 2, 1920, issued a notice to carriers and shippers recommending that until experience and study demonstrated that other rules would be more effective and beneficial the uniform rules as contained in the Railroad Administration's Car Service Section Circular CS-31 (Revised) be continued in effect.

"With the suspension of the activities of the Fuel Administrator and regulations which he had prescribed some railroads that did not have more than two or three days' supply of coal and that were and for some time had been securing their necessary fuel supply by confiscation at the mouth of the mines were sued for damages on account of such confiscation, injunctions were sought in state courts against the practice of confiscation, and when it was learned that the carriers were contemplating return to the use of assigned cars, injunctions were sought in state courts against the same carriers restraining them from using assigned cars. Numerous informal conferences were had between the commission and representatives of the coal operators and representatives of the railroads in an effort to find some way by which the carrier could be assured of a fuel supply without the use of assigned cars or resort to confiscation. A conference was arranged between a committee representing the railroads and a committee representing the National Coal Association for the purpose of devising, if possible, some plan that would effect that purpose, but no concrete or definite suggestion to that end resulted. Transportation conditions in the country were serious. Railroads that were unable to meet the demands upon them for transportation would be wholly unable to function if they could not secure coal and many of them had not more than two or three days' supply.

"No other definite rule or practical plan has been suggested by the interested parties in the many conferences that have been had on this subject. No rule other than that laid down by the commission and sustained by the Supreme Court had been presented or tried after the decision of the Supreme Court, hereinbefore cited, until, as stated, the rule was changed under war conditions when the railroads were under federal control and the production, distribution and marketing of coal was under a wartime federal administration. The passing of the roads from federal control and the suspension of the operation of the Fuel Administration's rules, together with the transportation conditions and shortage of fuel on hand, created an emergency in which the commission acted in accordance with its best judgment. Both before and since that action was taken parties interested in or affected thereby have been freely invited to suggest some workable concrete plan under which the railroads can get a dependable supply of the quality of fuel adapted to their

uses which can fairly be substituted for the rule to which some objections have been made. No one has suggested such a substitute rule. The nearest approach to it has been an expressed belief that a form of preferential contract could be devised under which the contracting railroad would have first call upon the output of a mine, but so far as we are advised no such form of contract has been framed. It seems not inappropriate to say that the coal operators are not able to entirely agree among themselves as to the advantages or disadvantages of the assigned car practice.

"Paragraph (15) of section 1 of the interstate commerce act, as amended by section 402 of the Transportation Act, 1920, authorizes the commission to direct priorities in transportation. If priorities were to be prescribed in transportation of bituminous coal it would obviously be necessary to give first priority to that for railway fuel, as was done when priorities were issued by the President's priority agent during the war."

A gradual improvement in conditions affecting the production of coal continued during the week ended June 5, according to the weekly bulletin of the Geological Survey. The occurrence of Memorial Day, which is observed as a holiday in some districts but not in others, renders uncertain interpretation of the figures of output. It is clear, however, that while the total production declined, the rate during the time actually worked went up. The week of Memorial Day, as shown by mine reports in former years, is equivalent over the country as a whole to only 5.3 to 5.5 full working days. Production for the week is estimated at 9,138,000 net tons, an absolute decrease, compared with the week preceding, of 410,000 tons. But as significant of the steady improvement of the situation it may be noted that the output in this short week was nearly as great as in the 6-day week of May 22, only a fortnight before. The congestion of traffic continued serious. The switchmen's strike, to which it is chiefly attributable, has been irregular and ill-defined. It is evident, however, that lack of labor, either because men were still on strike or because they have drifted into other occupations, continued to retard the movement of freight at many important terminals and junction points.

The special committee on car service matters of the Association of Railway Executives, of which Daniel Willard, president of the Baltimore & Ohio, is chairman, held a two-day meeting at Washington on June 15 and 16, considering the entire car service situation and the possibility of forming an organization somewhat similar to the former Railroads' War Board to co-operate with the Interstate Commerce Commission. No announcement was made of the results of the meeting but a report was made of recommendations to be submitted to the members of the association. There have been two important differences of opinion among the executives, one that the railroads themselves should form a strong organization to direct the co-operative activities of the railroads and to obviate the necessity for the issuance of orders by the Interstate Commerce Commission wherever it is possible for the railroads to handle the situation themselves, while others are understood to have taken the position that it is necessary for the commission to issue formal orders where the situation as a whole requires a discrimination against individuals in order to protect the roads both against the danger of legal complications and to define the extent to which selfish interests must be ignored.

J. H. THOMAS, THE BRITISH LABOR LEADER, says: "Every time we secure a wage increase it is followed by an inevitable advance in the cost of living, which not only nullifies the increase, but creates a heavier burden on a large part of the community. We cannot be a party to such a vicious system if we call ourselves fit to govern. It is a wrong system and stands condemned."

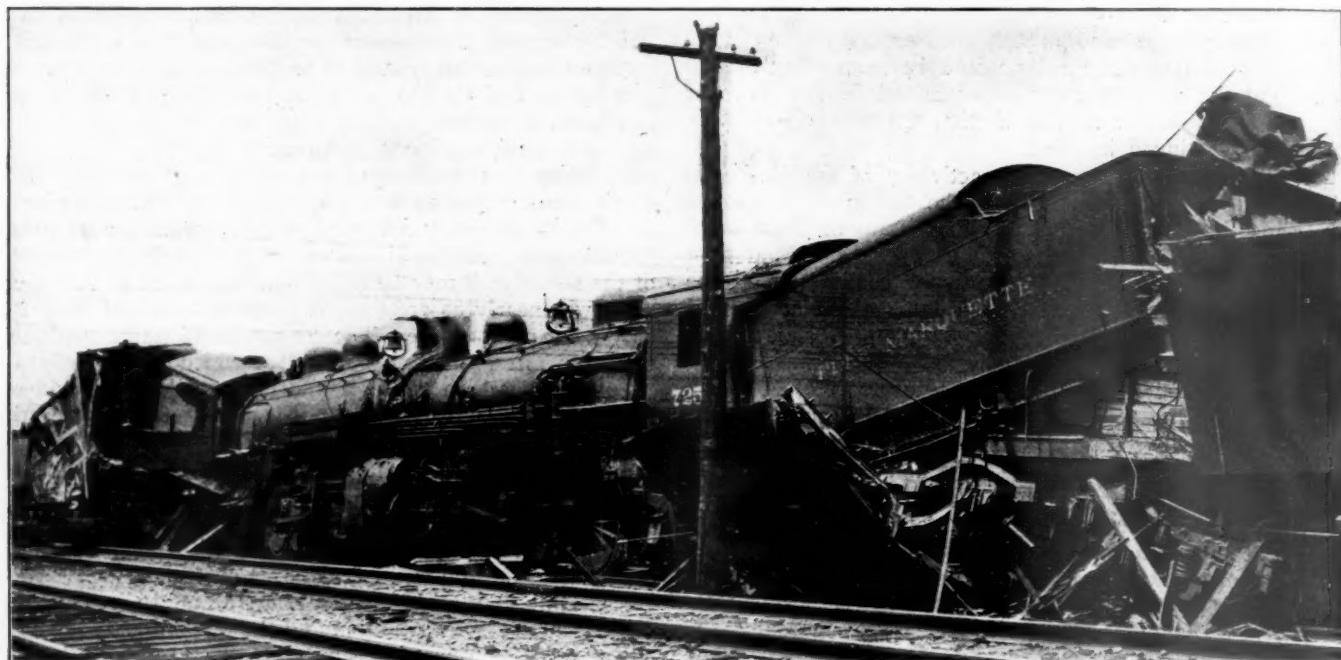
Pere Marquette "Resort Special" In Head-On Collision

IN A BUTTING COLLISION between two Pere Marquette trains on Baltimore & Ohio tracks near 103rd street, Chicago, about 7:45 A. M., June 14, one employee was killed and 14 persons seriously injured. The trains involved in the accident were passenger train No. 10, westbound, and an extra freight train, eastbound, the Pere Marquette having trackage rights over the Baltimore & Ohio tracks from Pine Junction, Ind., to 95th St., Chicago, a distance of about seven miles. The passenger train, known as the "Resort Special," which runs at present on a twice-a-week schedule, was making its second trip of the season from northern resort points in Michigan.

Earlier in the morning a B. & O. westbound freight train had pulled out a drawbar, blocking the westbound main track between the Indiana-Illinois state line and the South Chicago yards. Pere Marquette passenger train No. 8 and B. & O. passenger train No. 15 were run around this train

wood frame construction, between the passenger engine tender and the heavy steel Pullmans, killing the conductor, who was in the baggage car, and injuring those in the combination car. One Pullman car was slightly damaged. The tender of the freight engine was driven into the boiler head, destroying the cab; the steel frame box car back of the tender was demolished and the steel underframe was doubled back against the engine frame. A number of the weaker cars in the freight train were also wrecked.

While the road is equipped with automatic block signals, the passenger train, in running against the current of traffic, had no signal protection on that track, signals being set against an eastbound train ahead of the train going west, as this train entered the different track circuits controlling the signals. Train movements, as a rule, in the South Chicago yard limits, which extends from South Chicago to Pine Junction, Ind., a distance of approximately seven miles, are handled locally instead of under the jurisdiction of the train despatcher. In this territory there are four interlocking plants located at Calumet Draw, South Chicago, Whiting, Ind., and Indiana Harbor and Pine Junction, between which



The Engines After the Impact. The Telescoped Baggage Car Shown at the Right

on the east-bound main from Whiting, Ind., to the interlocking plant at Calumet Draw, South Chicago. After these trains had cleared, the freight involved in the collision started east on the eastward track, from Rock Island Junction (95th street). In the meantime, evidently through a confusion of orders, Pere Marquette passenger train No. 10 was diverted to the eastward main at Whiting, Ind., about three miles east of the point of the accident, and was proceeding toward Chicago at about 30 miles an hour when the accident happened at a point approximately 700 ft. west of the Indiana-Illinois state line. The morning was clear, the track is a tangent to the west, while a 1-deg. curve to the south started at the automatic signal location E257-12, approximately 500 feet west of the state line, after which the track is again tangent into Whiting, Ind., the view being fairly unobstructed except for a pole line between the B. & O. and New York Central tracks, which are parallel at this point.

The force of the collision smashed in the front ends of the engines, and they were locked in position with the smoke stacks and steam chests together. The impact telescoped the baggage car and one combination coach, which were of

these movements are made. An investigation of the signal system showed it to be in perfect working condition, it being in no way involved in the accident.

The Pere Marquette operates under trackage rights over the B. & O. from Pine Junction, Ind., to Rock Island Junction (95th St.), Ill.

COLOMBIA'S TRANSPORTATION SYSTEM consists of the Magdalena River steamers and 11 railroads connecting either directly or indirectly with river ports. These 11 railroads have a combined mileage of 492 miles.

HIGH WAGES AND LESSENED EFFICIENCY still support high prices. There are as many workingmen in the country today as there were a year ago, or two years ago. But their output is not so great and their wages much higher. Production costs are therefore increased. Strikes, holidays, vacations and diminished output per man all add to the price of goods, and hold up the price level. Labor inefficiency and sabotage are to be found in the transportation question, affecting distribution and hindering an orderly recession of prices.—*The Wall Street Journal*.

An Analysis of American Railroad Credit

First Class First Mortgage Railroad Bonds Are Selling at Prices to Yield Six to Seven Per Cent

THE FOLLOWING is the substance of a letter written by F. J. Lisman, of F. J. Lisman & Co., bankers, of New York, to Edgar E. Clark, chairman of the Interstate Commerce Commission, and printed with Chairman Clark's permission:

I would define the problem of re-establishing railroad credit as follows: Whenever there is a free market at par for the stock of the seasoned, well-established, strong railroad companies, paying a substantial return on the investment so that they can sell stock in large amounts for their capital requirements, then railroad credit will be rehabilitated, and not before then.

Congress apparently has allotted to the Interstate Commerce Commission the herculean, if not the impossible, job under present conditions of trying to re-establish railroad credit, limiting you, however, to a rate structure which will show 6 per cent earned on the fair value of the railroads to be arranged by the commission in regions. Only 5½ per cent of this, however, will presumably be used for interest and the very trifling remainder for obsolescence or unproductive improvements.

As a matter of fact a fair rate of interest today on money, on the best security, averages 7½ per cent. A fair rate of interest for one or two years is 8½ per cent, and for longer periods up to 20 years it is about 7 per cent to 8 per cent, and possibly a trifle less for a still longer time. As a proof of these statements, I enclose the credit standing of all the Class A roads. By credit standing I mean the rate of interest on the money which can be obtained by buying the securities of these various roads at the present market prices.

I am free to admit that an increase in earning power through a liberal rate advance will somewhat improve railroad credit, but whether it will enable the roads to get the necessary capital on the terms which are normally considered reasonable, is quite another question. Naturally, the companies do not want to borrow money for a short period, that is, for two, three or even five years, because it is very difficult to tell in the present unsettled condition of the world what money is going to be worth within the next year or two. While many people expect a reaction in general business, with some reduction in the present price for money, the opposite is not at all impossible, in view of the many unsettled international problems and needs. Up to the outbreak of the war 4½ per cent was a fair return on the best bonds, and 6 per cent and upwards on the more doubtful bonds and on stocks, depending on the risk. Now, 5½ per cent, free of taxes, is considered a fair return on the best of securities, and a higher scale in proportion to the risk. With the present tax laws 5½ per cent net means a gross return of approximately 6 per cent on taxable securities, for the very smallest investor having an income of less than \$5,000 per year, because about 4/10 per cent is the amount of minimum Federal income tax payable by him. There must also be taken into consideration the fact that railroad securities are subject to the State income tax in New York, Massachusetts and Wisconsin, and undoubtedly soon in most other States; in fact, income taxes for cities are now being discussed.

A 5½ per cent net return to an individual investor with a large income means a necessary gross return of from 6½ to 19 per cent, as from 8 per cent to 71 per cent of this gross amount will have to be paid out by the investor in Federal taxes, depending on the total amount of his income.

It is now possible to buy securities which are practically

tax exempt everywhere at prices to pay from 5 per cent to 5½ per cent, such as bonds of the large cities like Chicago, Cleveland, Minneapolis and many others.

United States Government bonds, which, however, become taxable in the course of about two years, can be bought at prices to pay 6 per cent.

Naturally the railroad companies are fearful lest the 5½ per cent minimum net return which they are supposed to be allowed on their value, may not be increased at the end of two years, and whenever they borrow money on which they have to pay a minimum of 7½ per cent, they are likely to permanently injure the value of their junior securities and stock. I may cite as an example the case of the Pennsylvania Railroad, which recently borrowed \$50,000,000 for ten years at 7 per cent, although it actually cost them 7½ per cent, taking syndicate expenses, etc., into consideration. The difference between 5½ per cent and 7½ per cent interest on \$50,000,000 amounts to \$1,000,000 per year, or about ¼ per cent on the \$450,000,000 of Pennsylvania stock. This \$50,000,000 netted the company only about \$30,000,000 new money as \$20,000,000 was used for the purpose of paying off at maturity an old mortgage. An annual investment for improvements on the part of the Pennsylvania system of \$30,000,000 is much below the average, and much less than it ought to be, and no doubt than it would be if the company could borrow money within the limitation of 5½ per cent or even 6 per cent. Naturally, though, the Pennsylvania Railroad would not be justified in spending at this time \$100,000,000, because this might mean that it would permanently have to reduce its dividend by ½ of 1 per cent on account of the cost of one year's new capital. If such a transaction were repeated for a few years, the value of railroad stocks would necessarily be greatly reduced and eventually wiped out, if all new money were raised through bonds. Under prevailing conditions the financial structures are becoming more and more top-heavy, because the proportion of bonds to capital stock is being steadily increased. What the railroads need, the same as other corporations, is fewer creditors and more stockholders, or partners. At present it is impossible to sell stock. There are not more than three railroad companies which could sell any substantial quantity of stock at par. I, therefore, beg to reiterate the statement made at the beginning of this letter, that railroad credit will not be re-established until there is a free market at par for the stock of well-established railroad corporations.

It is but just to say that the decline in railroad securities is not entirely due to the uncertainty of the railroad situation, but it is really due to three causes:

1. The present system of taxation, above referred to.
2. The greatly increased value of money due to the fact that there is now a great demand for new capital the world over for reconstruction purposes, for labor saving machinery of all kinds; also because capital is not accumulating throughout the world because it is confiscated at the source by the present tax legislation. The man with an income of \$1,000,000 a year, who probably formerly had not less than \$900,000 additional capital for investment purposes, now has not to exceed \$150,000 left over for investment, as he is subject to 71 per cent Federal tax, to increase State and local taxes and increased cost of living.

3. The credit of railroad companies was declining before the war and the present system of taxation, because the prevailing system of Federal and State legislation and regulation

did not make this field of investment attractive. The war with the great demand for wage increases and the uncertainty of the future of the railroads rather accentuated this feeling of distrust.

Atchison, Topeka & Santa Fe Ry.—This is one of the strongest systems in the country. Its closed first mortgage bonds are selling on a 5½ per cent basis. Other first mortgage bonds of the system are selling on a 6½ per cent basis. The 4 per cent debentures of the system, which is the only security the company could sell, are now offered at a price to yield over 7 per cent. The common stock of the company at present prices yields close to 8 per cent.

Atlanta, Birmingham & Atlantic Ry.—The valuation of this road has been completed, and works out in the neighborhood of \$27,000,000. It has one issue of \$4,000,000 first mortgage bonds outstanding, offered on a 9 per cent basis.

Atlantic Coast Line securities are now offered on a 7½ per cent basis, with practically no market for same.

Baltimore & Ohio R. R. System.—Some of the closed first mortgage bonds, due in five years, like the Southwestern Division 3½s, can be bought at prices to yield over 11 per cent. These bonds are a first mortgage on the lines from Parkersburg to Cincinnati, Louisville, St. Louis and branches. The longer bonds, like the Pittsburgh, Lake Erie & West Virginia 4s, due 1941, selling at about 54, yield 7½ per cent on the money, irrespective of maturity.

Toledo-Cincinnati Division 4s, selling at 46, yield 8½ per cent on the money. The 5 per cent general mortgage bonds of the system, due 1996, are selling on a 7½ per cent basis.

The 4½ per cent bonds, secured by a general mortgage on the property, are selling on about a 10 per cent basis.

Boston & Albany R. R.—This is a subsidiary of the New York Central System. Its 8½ per cent guaranteed stock has a small market on about a 6 per cent basis.

Boston & Maine R. R.—This road has no credit, having recently been financed by the Government. Some of its guaranteed securities can be bought on a 10 per cent basis.

Buffalo, Rochester & Pittsburgh Ry.—The junior mortgage bonds of this system are a legal investment for savings banks in New York State and elsewhere, but nevertheless, there is only a small market for same on a 6½ per cent basis.

Carolina, Clinchfield & Ohio Ry.—This is one of the strongest of the shorter systems which has not accepted the Government guarantee for six months in the expectation of doing better, nevertheless, its first mortgage bonds are selling on about an 8½ per cent basis, and its comparatively short securities, due in two years, can be bought at prices to pay about 12 per cent.

Central of Georgia Ry.—This is a subsidiary of the Illinois Central system. The consolidated Mortgage bonds of this road are due in 1945, and are selling on about a 7 per cent basis. The ten year 6s are selling on about an 8 per cent basis.

Central R. R. of New Jersey.—This is one of the strongest railroads in the country. There is a small market for its first mortgage bonds, which are legal for savings banks everywhere on about a 5½ per cent basis. This company has a bond issue due July, 1921, which covers its terminals on New York Harbor, and these bonds are offered on an 8 per cent basis.

Chesapeake & Ohio Ry.—The closed first mortgage bonds of this system are selling on a 6 per cent basis. Various other issues of the system can be bought at prices to yield from 7 per cent to 10 per cent on the money.

Chicago & Alton R. R.—The first mortgage bonds of this system are selling on about a 7 per cent basis. The next issue of long time, closed mortgage bonds is selling on about an 11 per cent basis.

Chicago & Eastern Illinois R.R.—Is in financial difficulties, although the Commission has ruled that the road is entitled to a standard return which would aggregate more than its entire fixed charges. Its closed first mortgage bonds, on which interest is being paid promptly, are offered on a 6½ per cent basis. Another issue of first mortgage bonds which mature next year, sold recently on a 16 per cent basis. The next issues of bonds on which interest has been earned throughout the difficult times, are selling at less than half their par value.

Chicago & Northwestern Ry.—This is a road which partakes of the highest credit. There is only a small market for its securities now on about a 6½ per cent to 7 per cent basis.

Chicago, Burlington & Quincy.—This is one of the strongest companies in the country. Its general mortgage bonds have a small market on a 5¾ per cent basis, but bonds with the guarantee of this company can be bought to pay over 6½ per cent. The bonds generally known as Chicago, Burlington & Quincy Joint 4s, which are a joint and several obligation of the Great Northern and Northern Pacific, of which \$200,000,000 are outstanding, secured by the stock of the Chicago, Burlington & Quincy, due 1921, are selling in the neighborhood of 94, which is a 10 per cent basis.

Chicago, Great Western Ry.—Its first mortgage bonds are selling on an 8 per cent basis, while the bonds of a subsidiary corporation, which in a way are a prior lien to the Great Western 4s, that is, Mason City & Fort Dodge 4s, can be bought at a price to pay over 9 per cent on the money.

Chicago, Milwaukee & St. Paul Ry.—Bonds are selling at prices to yield from 6 per cent to 11 per cent, the latter basis being obtainable on an issue of 4 per cent bonds, due 1925.

Chicago, Rock Island & Pacific Ry.—Some of the first mortgage bonds of this system can be bought at a price to yield 9½ per cent. Its refunding mortgage 4s, on which the company depends for its financing, are selling on about an 8½ per cent basis, and its preferred dividend-paying stocks at prices to pay over 9 per cent.

Cleveland, Cincinnati, Chicago & St. Louis Ry.—The securities of this company can be bought to pay over 8 per cent on the money.

Colorado & Southern Ry.—This road is a subsidiary of the Chicago, Burlington & Quincy, but, nevertheless, its refunding mortgage bonds are selling on an 8 per cent basis.

Delaware & Hudson R. R.—The convertible bonds of this company have a small market on a 7½ per cent basis.

Delaware, Lackawanna & Western R. R.—This road has no direct bonds, but the short obligation of its subsidiary corporation, which are a mortgage on the line in New York State, and which mature within a few years, are selling at prices to pay from 7 per cent to 9 per cent.

Denver & Rio Grande R. R.—The closed first mortgage bonds of this company are selling on a 9 per cent basis. Its junior guaranteed bonds are selling at prices to yield from 10 per cent to 14 per cent.

Erie R. R.—This company has a variety of closed mortgages which are selling at prices to pay from 6 per cent to 14 per cent. Its 7 per cent bonds, due next September, or about three months hence, are offered at prices to pay over 15 per cent.

Illinois Central R. R.—The bonds of this company are selling at prices to yield from 6 per cent to 7 per cent on the money. No large quantity could be sold on a 7 per cent basis.

International & Great Northern Ry.—The closed first mortgage bonds of this railroad, which has been valued by the Texas R. R. Commission as worth three times the amount of the first mortgage, have recently sold on an 11 per cent basis.

Kansas City Southern Ry.—The bonds of this company are selling in the market to yield about 8 per cent to 8½ per cent.

Lehigh Valley R. R.—There is a small market for the bonds of this Company on a 6 per cent to 7 per cent basis.

Long Island R. R.—The refunding bonds of this company, guaranteed principal and interest by the Pennsylvania R. R., are selling on about a 7 per cent basis. Some of its junior bonds are selling on about a 9 per cent basis.

Louisville & Nashville R. R.—The bonds of this company have a small market at prices paying from 6 per cent to 8 per cent.

Michigan Central R. R.—Some of the bonds of this company can be bought at prices to pay about 7½ per cent.

Missouri, Kansas & Texas Ry.—This road has been in the hands of receivers for five years, during which period it has doubled its gross earnings. It is paying interest to the extent of only one-fifth of its interest charges. The interest-paying bonds can be bought at prices to pay from 8 per cent upwards.

Missouri Pacific R. R.—The bonds of this important system are selling at prices to yield from 6 per cent to over 10 per cent on the money.

Mobile & Ohio R. R.—The bonds of this system are selling at prices to pay from 6 per cent to 10 per cent on the money.

Nashville, Chattanooga & St. Louis Ry.—There is a small market for the closed first mortgage bonds of this company at prices to pay around 6 per cent.

New York Central R. R.—The junior bonds of this system are selling at prices to pay 7 per cent and upwards.

New York, Chicago & St. Louis R. R.—The junior bonds of this system are selling at prices to pay from 7 per cent to 8 per cent.

New York, New Haven & Hartford R. R.—The bonds of this system are selling at prices to pay from 9 per cent to 12 per cent.

New York, Ontario & Western Ry.—The closed first mortgage bonds of this system are selling at prices to yield over 7½ per cent.

Norfolk & Western Ry.—It is possible to buy some of the bonds of this strong railroad at prices to pay over 7 per cent.

Norfolk Southern R. R.—The first and refunding mortgage bonds of this system are selling on about a 9½ per cent basis.

Northern Pacific Ry.—The refunding bonds of this very strong system, which are legal for savings banks nearly everywhere, are offered on a 6½ per cent basis, with no market.

Pennsylvania Co. Lines West.—The securities of this system are selling at prices to yield from 6 per cent to 7 per cent, with a narrow market.

Pennsylvania R. R. Lines East.—The long time bonds of this system are selling at prices to yield from 5¾ per cent to 6¾ per cent.

Pere Marquette Ry.—The bonds of this system have a narrow market on about a 6½ per cent basis.

Philadelphia & Reading Ry.—The bonds of this system are particularly favored on account of their tax exemption in the State of Pennsylvania. They are selling on about a 5½ per cent to 6 per cent basis.

Pittsburgh, Cincinnati, Ohio & St. Louis R. R.—The new bonds of this system now about to be issued are selling on a 7½ per cent basis.

Rutland R. R.—The bonds of this system are selling on a 7 per cent to 9 per cent basis.

St. Louis-San Francisco Ry.—The bonds of this system are selling at prices to yield from 7½ to 12 per cent.

St. Louis Southwestern Ry.—All the bonds, excepting the closed first mortgage bonds, are selling at prices to yield from 8 per cent to 11 per cent.

Seaboard Air Line Ry.—The bonds of this system are selling at prices to yield from 7 per cent to 12 per cent.

Southern Pacific Ry.—The junior bonds of this system are selling at prices to yield 8 per cent.

Southern Ry.—The junior bonds of this system are selling at prices to yield from 7 per cent to 9½ per cent.

Texas & Pacific Ry.—The bonds of this company are selling at prices to yield from 6½ per cent to 10 per cent.

Union Pacific R. R.—The direct obligations of this road, due in eight years, are offered on an 8 per cent basis. Its senior mortgage bonds have a small market at about a 6½ per cent basis.

THERE IS JUST ONE WAY to force prices down under present conditions—that is for us all to pitch in and produce so much of everything that at the same time prices can and must go down. Cut the cost and boost the supply and prices must drop. But as long as we go on cutting the supply and boosting the cost by loafing on our jobs, prices will hold their upward course.—*Saturday Evening Post*.

Minority Report On the \$300,000,000 Car Fund

**Two Members of the Committee of the Railroad Executives
Discuss the Utilization of Freight Cars**

L. F. LOREE, president of the Delaware & Hudson, has prepared a minority report, in which C. J. Pearson, president of the New York, New Haven & Hartford, concurs, for the committee on the \$300,000,000 car fund and has submitted it to E. N. Brown, chairman of the committee. In submitting this report to the railroad executives committee, Mr. Loree explains that his views are widely at variance with the minority report of the committee, of which he and Mr. Pearson are members. The memorandum of Mr. Loree and Mr. Pearson follows:

For the fullest and most economical use of a railroad there must be a balance of its several parts; that is, an equation must be maintained between the main tracks and sidings, the working yards and delivery tracks, the number of engines, the number of passenger cars, the number of freight cars and the shop facilities for caring for the equipment. In the growth of the American railways, from a variety of causes there has accumulated a supply of freight equipment (except refrigerator cars, of which the 20,000 proposed by the Committee is not excessive) that is out of all proportion in its relation to the other elements which alone make its use adequate and economical.

So much complaint was made about car supply in 1905 and 1906 that, at the beginning of 1907, the railroads collected and tabulated information for the whole country showing the number of cars ordered, the number of cars supplied in filling orders and the number of cars in equipment stock in excess of the cars ordered. The publication of these statistics was abandoned when the government took over the control of the railroads, but the statements and charts show the situation and the huge blocks indicating equipment serving no useful purpose are most impressive. It must be kept in mind that these figures are based on the assumption that the orders placed by shippers for cars for loading represent their actual needs, whereas it is common knowledge that these are commonly duplicated at competitive points and usually exaggerated, sometimes most grossly, by nearly all shippers, the hope apparently being that the larger the order the more nearly the actual want will be satisfied. It would seem likely, therefore, that the zero line should be removed considerably lower, especially at times when there is an active movement.

In 1916 the railroads secured the highest average miles per car per day, 26.9 miles. There is reflected on the chart the effect on each year's performance, based on the assumption that a similar mileage had been secured in each of the other years.

In the fall of 1917 an effort was made to secure an increase in the loading of cars and this effort was continued through 1919, the maximum being attained in 1919, when the average was 29.1 tons per car. (U. S. R. R. A. figures.)

The average capacity of the cars in 1919 was 41 tons, thus indicating the average loading as being 70.97 per cent of the marked capacity of the car. It will be noted by Column "H," on attached statement that had a similar percentage of the average car capacity been attained in other years there would have been an increase of 2.4 tons in 1918, 3.6 tons in 1917 and over 5.5 tons per car in the years 1910 to 1916, both inclusive. The reports for January and February, 1920, indicate some reduction in the loading per car and this was the subject of discussion with T. C. Powell (director of Capital Expenditure) prior to his leaving the railroad administration. He informed me that they were no

longer in position to insist upon shippers loading to capacity. It is quite evident that if we let the situation go back to the old conditions, we will have a loss of about 6 tons per car in the average loading.

To prevent this the Interstate Commerce Commission should permit a raising of the minimum loading of cars so as to provide that cars shall be loaded to marked capacity, or to the cubical content capacity, as the case may be. Inasmuch as the carrying capacity of cars today is 10 per cent above the marked capacity, this gives reasonable leeway for the shippers.

Comparing, for example, 1915 and 1919, the average capacity of cars in 1915 was 60 tons and the average loading was 21.15 tons, or only 52.87 per cent of the average car capacity. Had the 1919 loading been only 52.87 per cent of the marked capacity, the average loading would have been only 21.67 tons per car instead of 29.1 tons per car.

The United States Railroad Administration's performance sheets show 7.1 per cent of the freight cars as unserviceable on December 31, 1919, as compared with 5.6 per cent on December 31, 1917, a difference of 1.5 per cent—and 1.5 per cent of 2,385,476 cars would equal 35,782 cars.

The average mileage made by the cars during the fiscal year ended June 30, 1917, was 26.1 miles per car per day, as compared with 23.1 miles per car per day in 1919. This mileage reflects the cars out of service on account of "bad order" and slowing up of movement due to congestion on the railroads, or failure of the shippers to promptly load and unload.

The average miles per car per day in 1917 was 13 per cent greater than in the year 1919. An increase in mileage of 13 per cent as applied to 2,385,476 cars would result in a saving of 274,435 cars.

As stated, during the years 1917, 1918 and 1919, a very determined effort was made to secure a better loading of freight cars and under the spur of patriotic impulse and the recognition of the benefit to the common need, through a common exertion, the load per car was substantially increased to 70.97 per cent of capacity, viz. in 1919, and, as has already been shown, the railroads secured their highest average miles per car per day in 1916, viz. 26.9 miles.

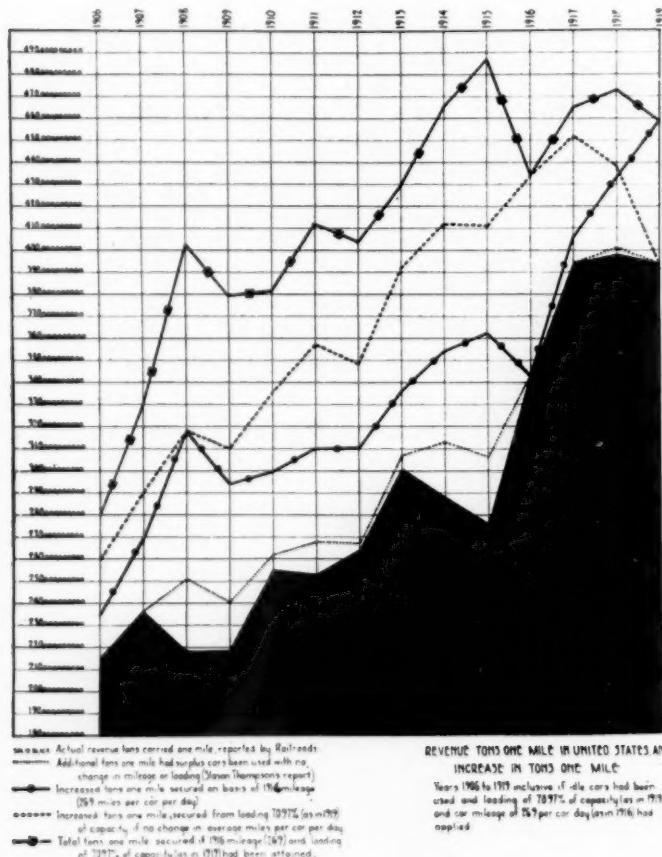
In 1918 the tons carried one mile were three hundred and ninety-eight billions, plus, with an average miles per car per day of 24.9 and an average tons per car of 26.64. If, however, the mileage per car per day had been speeded up to 26.9 (as in 1916) and the average load increased to 70.97 per cent of capacity (as in 1919) the available equipment would, under like operating conditions, have handled four hundred seventy-three billion tons plus, one mile, or an increase of 18.7 per cent.

In 1919 the miles per car per day decreased to 23.1 but the loading in this year reached its maximum of 70.97 per cent of capacity. The total tons carried one mile amounted to three hundred ninety-four billions plus. Had the cars been speeded up to the mileage of 1916, the available equipment, under similar operating conditions, would have handled four hundred fifty-nine billions plus, or an additional tonnage of sixty-five billions plus, or 16.4 per cent.

The charts reflect that the number of tons handled one mile in the years 1917, 1918 and 1919 was in excess of three hundred ninety-four billions or more than one hundred billions in excess of any of the years 1906 to 1917, inclusive, with the exception of the year 1913, when it was approximately ninety-four billions in excess and in 1916

approximately fifty-one billions in excess. When it is considered that the years 1917 to 1919 covered the war period, and when production was speeded up to the maximum, these years may reasonably be said to reflect maximum production and the maximum that may be expected for the next two or three years to come. But conceding that those tonnages will be materially exceeded, the statement reflects that if the maximum mileage and maximum loading are applied the present freight equipment can handle a tonnage almost 18 per cent in excess of the tonnages of 1917, 1918 and 1919.

It should be borne in mind, also, that during the three-year period 1917, 1918 and 1919 (or war period), our exports reached their maximum. In 1916 the ratio of imports to exports was over 50 per cent, while during the three-year period 1917 to 1919, inclusive, the ratio of imports to exports was 45.4 per cent. This clearly illustrates that because of our exports a larger percentage of business handled in connection with foreign trade was destined to seaboard during the period mentioned than obtained in the years previous thereto, thus producing a loaded movement largely one way and a material increase in empty car mileage which would not have resulted in normal periods when the traffic would have more evenly balanced. This to our mind was the contributing factor in causing an empty car movement during

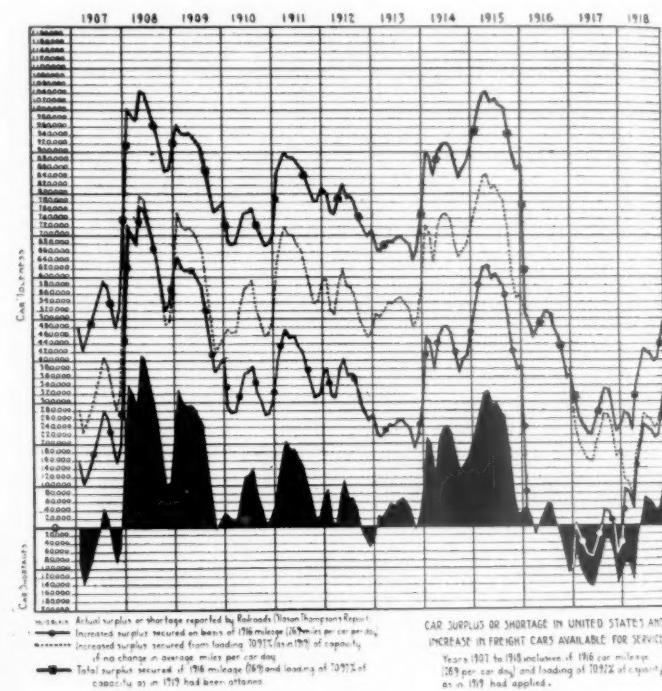


this three-year period of over 31 per cent of the freight car mileage as compared with 29.8 per cent obtaining in the year 1916.

There has been very little change in the number of cars per thousand ton miles moved since 1906, and the number of cars added annually to the equipment stock during that period was 41,572. This, however, does not fully reflect the effect on the movement of traffic, since the average capacity of the cars had increased from 32 tons in 1906 to 41 tons in 1918, or 28 per cent. It is true that many cars were purchased annually above this number, but many of them were purchased in replacement of cars of light capac-

ity or otherwise considered obsolete, and this special demand for new equipment is now largely eliminated, since there were on June 30, 1916 (the latest date for which I have the information) only 86,506 cars under 60,000 lb. capacity, and 665,494 cars from and including 60,000 lb. but under 80,000 lb. capacity, of all Class I and II lines in the country.

Consideration must also be given to the effect of changes in construction from the old wooden sill car, supported by hog chain truss, to the present practice of steel underframes, one consequence of which was the loading of the modern equipment to 110 per cent of its marked capacity. If to the marked capacity of the equipment of 1919 (98 million tons



plus) this 10 per cent be added the capacity would be one hundred and eight millions tons plus, as contrasted with fifty-nine millions tons in 1906 or an increase of over 83 per cent. The ton mileage in 1906 was two hundred and fifteen billions plus, and if the loading in that year had been 70.97 per cent of capacity, as in 1919, the equipment of 1906 would be capable of two hundred and fifty-nine millions tons, plus. The increase in tons miles in 1919 as compared with this figure is one hundred and thirty-five billions plus, an increase of but 52.36 per cent. The increase in car capacity offered was evidently over 30 per cent over the increased demand. It may well have been that it was this 30 per cent that was drawn on to take care of the larger ton mile movement in 1918, or that it was not used and that if the cars had been utilized to their full excess above marked capacity, the margin might have been much in excess of 30 per cent. This could only be ascertained by careful analysis of other factors affecting the use of the equipment.

Owing to the seasonal demands made upon equipment, the peak of the load is usually about October 10, and one of the questions always to be borne in mind is the extent to which this should be taken care of by the railroads, or by grain elevators, cotton platforms and other reservoirs for storage. It is evident that it is not to the interest of the country that equipment for which use can only be found for a period of perhaps six weeks in the fall should be supplied under the penalty of standing idle during the balance of the year.

It is evident then, to meet the demands of the traffic, one of two courses may be taken:

(a) Substantial additions may be made to the freight

June 18, 1920

RAILWAY AGE

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demand equipment stock. This will involve large additional investment and expensive upkeep of the same, a large amount of idle equipment over the major portion of the year and a substantial increase in all the freight elements of the railroad. Many years ago the Interstate Commerce Commission consolidated in its published statistics the items of "Road" and "Equipment" in the Balance Sheet; but based on the commission's estimated cost of reproduction now of the Kansas City Southern, it would appear that upon a line where the equipment is ample the value of the equipment is approximately 28 per cent of the Road and Equipment Account. It would indicate that for each dollar spent for new equipment three additional dollars would have to be spent for its economical use.

(b) The serviceability of the existing equipment can be substantially increased in the following ways: By heavier loading of cars, a great stimulus of which would be the raising of the minimum weights for carload shipments, and this is especially important in the loading of cars moving in the direction of the current of loaded traffic, having the effect of reducing the amount of empty car mileage in the return direction. As an example, approximately 60 per cent of the cars going into New England loaded now return empty and to the extent heavier loading can be obtained, the number moving into New England would be reduced and the empty mileage correspondingly reduced.

A reduction in the detention of the cars, a great stimulus toward which would be an adequate and flexible application of demurrage penalties.

A change in the reconsignment, fabrication during transit, and other similar practices, limiting many of those privileges and making a charge for others designed to reduce their number and use; similar action on unlimited free time allowances covering detention to cars billed on through rate via rail and water routes, free time allowance at Pacific ports; detentions due to use of cars for movement of shipments from shipper's warehouse to freight station, and use of cars for transporting shipments from one point to another in the same city.

A marked restriction in the use of "to order" bills of lading, the absolute prohibition of some and a charge designed to the restriction of other uses of this device.

A gradual elimination of the use of the bill of lading as a commercial instrument, which should be possible with the growth and the improvement of the banking system of the country, and the restriction of the bill of lading to a receipt for goods and an obligation for their carriage. This would have a potent effect in holding back unwarranted shipments now greatly stimulated by the ability to collect on the sale of goods as soon as bill of lading covering them is issued.

For more than one-third of its life the car is in the possession of the shipper or receiver of freight; that is, of the 2,242,379 revenue service freight train cars shown for Class I carriers as of June 30, 1916, by the report of the Interstate Commerce Commission, approximately 747,459 are so located. It is not too much to say that it is within the power of the Interstate Commerce Commission, by the resolute exercise of its authority under circumstances that would not distress the shipper but would mean much toward his relief, to add to the effectiveness of the freight equipment of the country the equivalent of at least one-half million cars, and this not only without adding one dollar to the capital account but producing changes in the practice that would cut many thousands of dollars from the operating expenses.

Unfortunately the tendency seems to be in the opposite direction, as indicated by the commission's circular letter of April 27, last, regarding minimum weights and proposed double loading of grain and grain products, in which it is suggested that the minimum weight might be reduced from 60,000 to 40,000 pounds and that a certain amount of cir-

cuitous and back hauling be permitted, the basic idea of double loading having already been shown to be impracticable of accomplishment to any considerable extent due to the fact that it is a too highly specialized arrangement to fit into railway operation.

Nor does this exhaust the possibility of better use of present equipment. The freight car is in actual train movement on main line track on an average of only two hours and twenty-four minutes out of each 24 hours. The speed of freight train cars can be increased only at the sacrifice of a part of the tonnage which the locomotive can haul, and the abandonment of some of the collateral economies, increase in the expense of up-keep of the track, of fuel and supplies used and an increase in the danger of operation. Were it possible to increase the speed so much as 15 per cent the gain in time would be only 22 minutes, involving sacrifices that the railroads could not possibly afford. Eliminating this feature there remains to be accounted for about one-half the life of the car. About 28 per cent of this life is accounted for in road delays, movement through intermediate yards and interchanging between railroads where more than one railroad is involved, 5 per cent in the movement of surplus cars, 9 per cent in movements connected with the keeping of the cars in repair and 11.6 per cent in the movements connected with the relation of the railroad with the shipper or consignee. If, in the immediate future, the new moneys applied to railroads were largely spent in eliminating and reducing these delays, which involve fully one-half the life of the car, the addition to the effectiveness of the equipment would perhaps not equal that gained by the other measures suggested but it might reasonably approximate it.

All of the above relates to what might be considered the normal practice of the railroad, but conditions are now very abnormal in that during Federal control all restrictions of ownership were ignored and the cars were scattered throughout the country and their repairs sadly neglected. Efforts should now be made to bring them back as promptly as possible to the owning line and every effort should be made to as rapidly as possible put them in proper repair. Labor is, of course, also much less effective than formerly owing to the many restrictions thrown about its employment during the period of the war, of which perhaps none is quite so costly as the imposition of the eight hour day, with penalty for overtime. This very much increased the number of men on the payroll and it is leading to changes in practices uneconomical in themselves but not so costly as the penalties imposed.



Photo by Kadel & Herbert, N. Y.

Vendors of Sweets at Okayama, Japan

Hearing on General Rate Advance Case

Shippers and State Commission Show Appreciation of Need for Higher Rates to Improve Service

WIDE DIFFERENCES OF OPINION, among differently situated shippers and also among the state commissioners, as to how the Interstate Commerce Commission should deal with the applications of the railroads for general advances in freight rates, manifested themselves at the hearing before the commission last week and this week. A special committee of the National Industrial Traffic League, which is the most representative organization of shippers in matters pertaining to their relations with the railroads, strongly advocated an increase in rates, the amount of which they were entirely willing to leave to the judgment of the commission, on the ground that it is necessary to improve the condition of the railroads in order that the shippers may have adequate service. This statement aroused a storm of protest from the attorneys present who are attacking the position of the railroads on behalf of shippers, or state commissions, in an effort to reduce the amount of the advance below the percentages asked by the railroads or to change the method of the proposed adjustment in the interest of certain classes of shippers or communities. They immediately began a line of cross-examination intended to show that the league committee was not warranted in speaking for individual members of the league.

The opposition to the railroads in this case is confined mainly to the shippers of the northwest and southwest interested in long-haul traffic, whose rates would be increased under a percentage advance by greater amounts in dollars and cents than the rates of some of their competitors, and to the representatives of shippers of live-stock and agricultural products who claim that they pay the freight rate direct because it is deducted from a base price instead of being able to add it to their selling price. Representatives of the state commissions in the intermountain country asked an exemption on the ground that other rates which they claim are discriminatory against them should be advanced first, and the Southern Traffic League is taking the position that the southern lines need less of an advance than they have asked for.

Comparatively little direct opposition to any advance in rates has been voiced during the hearing, but the attitude of the protestants has rather been that of an attempt to whittle down the amount of the advance in any way possible by attacking the statistics used by the railroads, by insisting upon an optimistic view of the volume of traffic or the level of expenses to be expected in the future, or by efforts to change the proposed adjustment of the rates themselves.

Cross-examination of the railroad witnesses was concluded on June 10 and after H. H. Raymond, president of the Clyde and Mallory lines, had testified in support of the application of the Chesapeake Bay and Atlantic and Gulf coastwise steamship lines for advances in their rates corresponding to those allowed by the railroads, the testimony on behalf of shippers was begun by R. M. Field, of Peoria, Ill., as chairman of a special committee appointed by the executive committee of the National Industrial Traffic League, who read the following statement:

Statement of the National Industrial Traffic League

"It is a well known fact that transportation is the life blood of commerce and our railroad systems the arteries of trade. We know that in the human body, when the arteries are clogged and the blood fails to circulate freely, this means severe illness and ultimate death. Our business life is in

WASHINGTON, D. C.
this condition today and unless relief is speedily given, more serious results than have yet shown will be apparent. To obtain this relief we must have a transportation service that will serve adequately, and transport our traffic in such quantity and with such regularity as the needs of our growing business require. This is the big, outstanding vital point before us today. It dwarfs all other questions and considerations and in this case now being considered by your honorable commission other factors and features are merely incidental. It is a matter of surprise to note in the progress of this hearing the tendency to introduce and dwell upon various elements important, no doubt, in an ordinary rate case, but in this case, which is of an extraordinary and special nature, not germane in any particular to this, the main issue, the restoration of service to the shipping public.

"For this purpose the Congress of the United States considered and held hearings for eight months on proposed new legislation designed to improve transportation conditions and solve this problem, which culminated in the Transportation Act, 1920, passed February 20 of this year. For this purpose, the act provided an insurance of a reasonable revenue return to the railroads, to be provided for by the establishment by this commission, under specified conditions, of rates that would produce such a result. There was but one object in view,—to save our transportation facilities and build them up as speedily as possible to a condition enabling them to function in conformity with the present and ever increasing needs of commercial business traffic. It isn't the present cost of this accomplishment that counts. It isn't the question of whether the available valuation data on one basis or another shows a variation of a few millions of dollars. It isn't the question of whether the railroads can operate by special efforts and economies on a less basis this year than last. It isn't the question of whether certain more prosperous roads are going to earn a little more than the prescribed return. It isn't the question of whether or not certain roads are or have been wisely constructed or operated. All these things are overshadowed by the main issue, the crying need for adequate transportation. Let the work of restoration and rehabilitation be done first, and then let these minor questions be taken up and adjusted at such time and in such a manner as can then be accomplished without disturbing the welfare and prosperity of this country. We have no time for the consideration of such matters now. Our national prosperity is bound up with the proper growth and functioning of our railroads, and no detail matters or technicalities can be permitted to interfere with such speedy action as is necessary to accomplish the big vital result, viz., to put the roads on their feet.

"The National Industrial Traffic League has made a thorough investigation of the transportation conditions at present existing in the United States and has arrived at the conclusion that the following needs are clearly apparent:

"1. An additional supply of cars, locomotives and other equipment.

"2. More adequate and extended terminal facilities with such improvement and betterment of the existing terminals as will enable them to care for the present increased flow of business without delays and congestion.

"3. A general rehabilitation of other railroad properties of all description to cope with the movement of current and future business.

"It is estimated that a sum amounting to six billions of

dollars will have to be spent on our railroads to provide the above within a period of three years, and that at least a billion and a half dollars will have to be spent in addition each year for current upkeep and additional necessary facilities on basis of present costs.

"A fair and proper earning capacity is necessary to enable the railroads to meet current obligations and expenses, to establish their credit upon such a basis as will make the negotiation of further necessary loans possible, and place them upon such a sound financial footing as will attract capital investment in future. This program should be worked out as speedily as possible, for it is clearly apparent that an increase in rates is necessary to bring the revenue return of the railroads up to the basis prescribed by the law, and as this action will materially assist in the restoration of proper transportation service the commission is urged to act without delay. The present transportation situation is deplorable in the extreme and we are paying today indirectly for a lack of service more than we would be called upon to pay in rates made sufficiently high to enable an adequate service to be maintained. Sales, production and transportation are the three great factors of industry and successful business requires that each shall keep pace with the other. When transportation fails to measure up to sales and production, there is both an actual and a potential loss difficult to measure accurately, but reflected decidedly in general profits.

"The league makes no argument or comment on the measure of the rate advance, believing that as the law clearly prescribes the basis on which this shall be determined, it is the right and duty of the commission to make its own determination under the law, and that, we hope, speedily. However, as to the application of the rate advance in various features and details, there are certain points which the league has carefully considered and on which we would like to submit our views for the commission's consideration, as follows:

"1. Advance in state and interstate rates:

"It is the view of the league that rates should be advanced on state as well as interstate traffic, and that these advances shall be made in so far as may be possible simultaneously. The league feels that it would be a grave mistake to have different advances on state and interstate rates within the same territory so widely apart as to cause discrimination and general business disturbance, and is willing to lend its efforts in co-operating with the railroads and the Interstate and State Commissions to see that the intrastate and interstate rate advances are properly aligned.

"2. Freight rates:

"No objections will be offered by the league at this time to the contemplated advance being made on freight rates alone.

"3. Switching rates:

"In view of the chaotic condition of switching rates throughout the country, the league opposes any advance in switching rates in general including the present minimum class scale of rates when applied to switching service, but believes this matter should be left for adjustment by the local communities. Our position is forced by the fact that in the last two years many switching rates have been advanced as much as 300 to 400 per cent. Adjustments have been made which have put many communities on a basis of switching rates abnormally high and these rates instead of being further advanced should be reduced to a normal basis. The application of this minimum class scale of rates, as provided in General Order No. 28 to switching service, has resulted in many excessive charges which should not be further advanced. In view, therefore, of the many necessary adjustments in these rates, the league goes on record, as before stated, that this matter of switching rates should not be in-

cluded in the general advance but handled separately and and on its own merits.

"4. Differentials:

"Resolution has been adopted by the league as follows:

"It is the view of the league, where there is a recognized or established rate relationship between points of origin or points of destination, a change in the level of the rates, either by advances or reductions, shall be effected by increasing or decreasing the base point rates, and then establishing the rates to or from related points of origin or destination by using the established arbitraries or differentials over or under the base point rates, or by using the established percentage of the base point rates where rates are related on a percentage basis. This is not intended as an approval of all recognized or established rate relationships, but merely as expressing the view that such relationships should be changed only where the propriety is directly in issue, and not as an incident in connection with an advance or reduction in the rate level."

"In explanation, we shall say, that the league is in favor of the maintenance of established, recognized differentials, many of which were disturbed under General Order No. 28, and up to date never restored. The new adjustment should provide for the restoration and establishment of such differentials as are recognized and proper, believing that only by the preservation of these differential relationships can the trade relations between communities and territories, which have been built up during the last 40 years or more, be satisfactorily maintained. The league, being a national organization, does not here attempt to define or designate in any manner what specific differentials or relationships existing in the rate structure of this country are recognized and proper, but merely places itself on record as endorsing the general principle of same as explained above.

"5. Disposition of fractions:

"The league favors the disposition of fractions in cents per hundred pounds on the even or one-half cent, whichever is closer, thus observing the rule of the Interstate Commerce Commission; rates per ton or per car should be figured on the nearest even cent. As to the disposition of fractions covering rates made in cents per hundred pounds, we believe that comment is unnecessary because it has been the general rule of the commission in all general rate adjustments to follow the principle advocated above. However, as to rates made in cents per ton, or per car, we believe that the disposition of fractions by any other method than as outlined above would have the effect of permitting increases for some communities or districts on a basis less than the percentage advance, and for others greater than the percentage advance, thus causing discrimination in favor of one and against the other. There are many low grade commodities on which the freight charges are greater than the value of the material. These are sold on a close margin and a difference of one to three cents per ton will in many cases work a severe hardship on the producer or consumer. This would be avoided if our method for disposing of fractions was adopted. In the final analysis, there would be practically no effect on the revenue accruing to the railroads, and our method, as stated above, would adjust the advance so as to avoid discrimination to producers, shippers or consumers.

"6. Inter-territorial rates:

"After a thorough investigation of this subject and various conferences with the railroads' representatives, the league feels that this problem resolves itself into more or less of a sectional matter on which the different communities and territories interested will have to express their own views. The league, being a national organization, does not feel that it can properly commit itself to any definite plan or policy on this subject, the same being bound up to a great extent with the subject of differentials and relationships upon which we

have already expressed our views as to the general principle.

"7. Combination rates:

"From consideration of the applications presented to the commission by the eastern, western and southern railroads, asking for advanced rates, it appeared that in some cases advances were proposed on some commodities in specific amounts per hundred pounds or per ton instead of on a straight percentage basis, and the league has taken the position that in such cases combination rates should be advanced by applying the one advance to the through combination rate instead of applying the specific amounts of advance to each factor of the combination. It appears that now the railroads have decided not to ask for advances based on specific amounts but on a percentage basis, and with this understanding we feel that the matter of combination rates will probably adjust itself if the application of the rule for disposition of fractions is followed as previously outlined by the league. The league is opposed to the proposal of the carriers that the minimum class scale of rates, the minimum charge per car and the minimum charge per single shipment be applied to each factor of rates or charges on shipments upon which the through rate or charge is based upon the aggregate of the intermediate rates. We recommend that these minima should be applied to the through charge and not to each factor.

"8. Export rates:

"The league believes that in view of the unusual commercial conditions surrounding export traffic, special consideration should be given by the commission, and the railroads, to the proper adjustment of export rates under a general percentage increase so as to preserve long standing and recognized port differentials and relationships.

"With reference to the general statement made by the league in regard to the existing transportation situation, if the commission please, the league would like to put on three special witnesses each representing a large industrial concern, who will testify for the commission's information specifically as to the present conditions and how the same are affecting the particular business, which he represents. It would easily be possible for the league to put on several hundreds of such witnesses, whose testimony would cover practically the same ground, but not wishing to take up the time of the commission and others interested in this hearing, it is believed that the testimony of these three witnesses will be sufficiently typical of the existing conditions."

Commissioner Aitchison interrupted the witness at one point to ask why he had not mentioned the labor question in discussing the causes for the "deplorable" transportation conditions. Mr. Field said he thought the labor question hardly had a bearing on the present rate question. Mr. Aitchison said that if the rates were raised over night transportation conditions would not be improved until the labor situation is improved.

J. N. Teal, of Portland, Ore., questioned the witness sharply in an effort to show that the executive committee of the league did not represent the views of all of its members, which Mr. Field readily admitted, saying that the statement was prepared by a special committee of nine, under instructions from the executive committee, which derived its authority from a meeting of the league attended by about 450 members in March. Mr. Teal said that if the league has any members in the west the statement directly misrepresented them. He asked if the members were not principally jobbers. Mr. Field said he thought they are mostly manufacturers, but that they include all kinds of shippers and that the membership is largely made up of chambers of commerce and boards of trade. J. B. Campbell, of Spokane, and S. H. Cowan and R. C. Fulbright, of Texas, also denied that the committee had any authority to speak for the individual members. F. T. Bentley, traffic manager of the Illinois Steel Company, asked Mr. Field questions to bring out the history of the

statement and the numerous meetings and conferences at which the position to be taken by the league as an organization had been determined without any attempt to bind any individual member.

Mr. Field said that speaking personally he was not afraid that the railroads would get too much but that he was inclined to fear they would not get enough. This also aroused some indignation among those who are opposing the rate advance, and Commissioner McChord asked why he was afraid the roads would not get enough. Mr. Field hastened to reply that he meant he feared the railroads had not asked for enough and that the amount they would receive from the general advance would be reduced in making later readjustments.

Shippers Want Better Service

J. M. Belleville, traffic manager of the Pittsburgh Plate Glass Company, said he could not recall a time when the transportation service was as poor as it now is and that during the past six months his company would have been "money ahead" if it had paid double rates and had had a normal movement of its freight. The business of its warehouses had been curtailed and its distributing expense had been doubled by shortage of transportation service, he said, and in endeavoring to keep its factories in operation the company had used circuitous routes, paid double rates and had made "extravagant use" of motor trucks, sometimes for a distance of as much as 200 miles. Commissioner Aitchison again interrupted to ask if the witness were not discussing the effects of congestion caused by strikes and Commissioner McChord said that the conditions described did not represent shortage of equipment. Mr. Belleville said that the conditions had been recently made much more acute by the strike and when Mr. Aitchison asked whether freight rates had anything to do with the strike, he replied in the negative.

Mr. Belleville continued, saying that his company and many other shippers he had talked with felt that under present conditions the great need of the country is for increased production and that they do not believe that can be brought about without a great improvement in transportation service, which cannot be furnished unless it is paid for. Asked whether the railroads are making an honest effort to give proper service, Mr. Belleville said he knew that in the Pittsburgh and Chicago districts all operating officials have been working day and night and in operating their yards with voluntary forces and in the face of the greatest obstacles had accomplished things he had not believed possible. He thought the bulk of the operating officials are "doing their level best." When he spoke of the necessity for co-operation between carriers, shippers and the commission, Mr. Aitchison asked why he had not mentioned labor. Mr. Belleville said he should have mentioned labor and in reply to the commissioner he said he had never seen a time when labor conditions were as critical as at present.

W. E. Lamb asked whether present difficulties are caused by a shortage of equipment or by shortage of labor. The witness answered that there is a shortage of both and when Mr. Lamb asked if the Railroad Administration had not turned back to the roads 100,000 more cars than it took over in 1917 Mr. Belleville said that there was not enough equipment in 1917. Much of the present acute difficulty, he said, is due to labor conditions, but there was also trouble from congestion before federal control terminated.

Commissioner Meyer referred to reports received by the commission indicating 50 per cent or less of the normal number of switching crews at work at Pittsburgh and other large terminals and asked if the congestion would not have been worse if there were 200,000 or 300,000 more cars on the tracks. Mr. Belleville said perhaps that would be the case.

Mr. Lamb asked why more cars are needed now than were

available in 1917, and whether there is more tonnage in sight than was handled in 1917. Mr. Belleville said he thought there is more in sight. D. A. DeVane, counsel for the Florida commission, asked if the best way to get service from the railroads would not be to so fix the rates as to make them "hustle." Mr. Belleville thought the commission would continue to function and that the rates would not be so fixed as to eliminate entirely the need for hustling. C. E. Cotterill, of the Southern Traffic League, asked if Mr. Belleville's willingness to pay higher rates is influenced by the fact that his company sells its glass generally on a delivered basis so that the freight is "passed on." Mr. Belleville said his company pays the freight on a large tonnage of raw materials. He admitted that it sells to railroads just as it sells to any one else.

M. J. Parlin, traffic manager of the Belknap Hardware & Manufacturing Company, of Louisville, testified that because of railroad congestion and shortage of cars the company had had to employ a large additional amount of capital, 10 to 20 per cent, because of money being tied up longer in goods in transit. Commissioner McChord asked whether he meant that there was a real shortage of cars or merely that he couldn't get them. Mr. Parlin replied that there had been no strike at Louisville, although there had been some shortage of labor, and that the car supply was insufficient, also that the condition of the cars was "very bad." "The shortage of cars," he said, "is one of the main causes today of the high cost of living and there has been both shortage and congestion before, during and since the period of federal control."

J. H. Beek, executive secretary of the National Industrial Traffic League, also gave similar testimony.

C. L. Lingo, traffic manager of the Inland Steel Company, testified on behalf of the Illinois Manufacturers' Association and he began by endorsing what had been said by the representatives of the National Industrial Traffic League. He said the railroads should have all the law permits in the way of increased revenue and that a straight percentage advance is the most equitable method of accomplishing the result. Mr. Lingo said there is a large potential business in the country to be handled "if we can get our transportation machine in good shape" and "the railroads have got to have money to work on." He added that the effect of the rate advance would not be immediate but that it would take time to bring about the needed improvement. He said the reply to a question asked by Mr. Lamb of a previous witness as to whether the Railroad Administration had not turned back as many cars to the railroads as it took over was that it "turned back the same number of car numbers but not of serviceable cars" and that there are thousands of cars stored on side tracks and still on the books that he did not believe could be put into condition again for the cost of new cars. In addition to cars in such condition, he said, the cars that are being used are in bad condition and when an effort is made to get expedited movement by making up a solid trainload it is hardly possible to get over a division without setting out several cars. He expressed the opinion that the railroads are short 250,000 to 300,000 cars and that the railroads have not bought them because they had not had the money and during the war could not have got them if they had had the money. This, he said, implied no criticism of the railroads or of the Railroad Administration. It was the result of a natural situation resulting from the war and he thought "everybody had done the best they could," but one of the results is that instead of the railroads soliciting business the shippers are now begging them for transportation service. When S. H. Cowan asked if the National Industrial Traffic League is not made up principally of shippers who are not materially concerned with the amount of the freight rate because they can add it to their prices, Mr. Lingo read from a list of members to

show that it includes all classes of shippers. He said: "The consumer pays for everything always."

In discussing the question of railroad credit with the witness, J. N. Teal read an advertisement of an issue of railroad notes which stated that the entire issue had already been sold. Commissioner Clark interposed to say that the commission itself is following up and informing itself regarding all issues of securities since March 1, as to the conditions of the sales, the net cost to the carriers, any discounts, etc.

Commissioner Eastman asked whether, if the commission should reach the conclusion that rates sufficient to allow a return of 5½ per cent would not be sufficient to rehabilitate the credit of the railroads, it should use a higher valuation as a basis than it otherwise would, for that purpose. Mr. Lingo said the commission could not disregard the law but that it should be as liberal as the law will permit.

Commissioner Aitchison referred to the labor question again, asking whether, even if the credit of the railroads is rehabilitated, the service will be adequate unless labor is satisfied. Mr. Lingo replied that, of course, it is essential that there should be an adequate supply of labor.

Mr. Aitchison also aroused a discussion by asking Mr. Lingo whether he expected that the railroads would buy cars out of the revenue from rates. Mr. Lingo said that personally he thought they should, that no other business expects to be successful by depending entirely on borrowed capital without putting a part of the earnings into the property.

Alfred P. Thom asked the witness who would suffer if a mistake should be made and the railroads should receive too little financial support. "The great American public," replied Mr. Lingo.

Chairman Clark after a time reminded Mr. Thom that some of his questions were more in the nature of argument than of cross-examination. Mr. Thom said the point was probably well taken but that as so many of the other counsel had used the cross-examination for the purpose of argument he thought he could do some of it. The chairman said that for that reason he had allowed him to proceed for a while but that too much time was being taken up on points which would not assist the commission. Mr. Lamb retorted saying that witnesses were taking up too much time in "hearsay" testimony as to matters of which they had no personal knowledge. He particularly objected to too many references to estimates made by the *Railway Age* as to the need for additional equipment. Mr. Clark said that the commission was able to notice when hearsay testimony was offered and to give it its due weight without having its attention called to the fact by a series of questions by half a dozen lawyers.

Position of State Commissioners

Testimony on behalf of state commissions was begun on June 11. A. L. Flinn, rate expert of the Minnesota railroad commission, submitted a statement saying the Minnesota commission agrees that some increases in rates probably are necessary but that it has no definite information on the subject; that so far as its present information goes no objection has so far appeared to a straight percentage increase so long as proper relationships are maintained. If increases are granted the commission requests that some understanding be had as to how the proceeds are to be used so far as the purchase of new equipment is concerned and what new facilities are actually contemplated; that special consideration be given to the question of increases on rail, lake and rail coal for the northwest, to the end that no unnecessary burden be placed on the consuming public in Minnesota and surrounding states; that special rates on roadmaking material for states or municipalities be continued; that the same consideration be given rates on iron ore shipments via the lakes as is given coal shipments in order to save the low grade iron mines of the

state from practical ruin; and that the present practice of applying minimum rates be discontinued and proper consideration be given to published exceptions to the classification. The commission also objected to certain suggestions that had been made as to adjustments. Mr. Flinn said he thought the opinion of the commission was that passenger fares should not be increased and said that on September 1 the state will go on a two-cent a mile basis unless the statute is changed.

H. M. Slater, transportation rate expert of the Illinois commission, pointed out several objections to the proposed interterritorial rate adjustment which he said would work out unfairly in its application to parts of Illinois that are in two rate territories. When he said he understood that the relation between state and interstate rates is not now under consideration, Mr. Thom said it was the understanding that a common record was being made in this case for use later in proceedings before the state commissions to which the railroads have applied for similar advances. J. B. Campbell, representing several state commissions in the intermountain territory, said he had no such understanding, and Chairman Clark remarked that neither the interstate commission nor the state commissions could be bound by any understanding. J. E. Benton, solicitor for the state commissioners' association, explained that an understanding had been reached that the common record could be used for convenience but that no attempt had been or would be made to limit any evidence that might be called for in addition and that the understanding did not intend to bind any commission. Mr. Slater suggested that the Interstate Commerce Commission should lay down rules for the readjustment of rates to preserve relationships which the railroads have promised to make after the general advances have been made, as otherwise, he said, it might take the carriers years to make them. He asked that the Illinois district as a whole should be made subject only to a single uniform percentage advance.

J. B. Campbell, appearing as counsel for the state commissions of Washington, Montana, Idaho, Utah, New Mexico, Nevada and Arizona, made a statement saying that these commissions are not antagonistic to the railroads but do not concede to the Interstate Commerce Commission exclusive jurisdiction in this case and believe it is the duty of the state commissions to hold hearings and conduct an investigation on their own account. He urged that the rates be properly related and equalized before a general advance is made, saying that if that is done large sums of additional revenue for the railroads could be raised without hardship, but he expressed the opinion that the carriers serving the northwest need only a small increase and he would segregate them. He declared that the carriers ought to be able to take care of their needs by an increase in efficiency and made the point that there had been no showing that the conditions mentioned in the act as to honest, efficient and economical management have been met.

Fred A. Williams, of the Oregon commission, said he wanted the railroads to prosper but that many industries of the northwest cannot survive if rates are made much higher. They now pay the highest rates, he said, while the railroads serving them are generally prosperous, and he was not fully convinced that they deserve the increase they have asked. He also thought the 1919 basis was not a fair one on which to base calculations. He admitted he had not looked up the figures as to the recent earnings or operating ratio of the northwestern roads and in reply to a question by Chairman Clark as to what would be a proper operating ratio he said he was not competent to answer. Commissioner Aitchison asked what is the position of the northwestern section as to an increase in passenger fares, since the fares were already on a basis of three cents or more when the increase was made by the Railroad Administration. Mr. Williams thought

an increase would not be very popular. He said the railroads have plenty of cars but that they are in the east and that what the railroads need is greater efficiency. When Fred H. Wood asked to what, in his opinion, the inefficiency is due, Mr. Williams said there seems to be a general lack of interest on the part of all the railroad men he came in contact with.

A. O. Calderhead, traffic expert of the Washington commission, declined to admit that the railroads are entitled to what they have asked and said the results obtained last year under federal control are not sufficient evidence on which to base the results to be expected in the future. He said it is a grave question as to whether the carriers are operating efficiently and that the congestion cannot be explained entirely by the strike because there was congestion during federal control. If all the car space were properly utilized the carriers would not need additional cars but they have failed to offer the shippers any inducement to incur the extra expense of loading large cars and they can hardly be expected to do so for the sole benefit of the roads. He also said that a percentage basis of increase is wrong. It might be correct if rates were based on cost but they are not and a percentage penalizes the long haul. On the first class rate of \$4.62 from New York to Puget Sound, he said, a 25 per cent increase would result in a greater increase per ton per mile than it would make on the first class rate from New York to Chicago of \$1.12. When Chairman Clark asked the witness if he thought the operating ratio of the Great Northern is satisfactory Mr. Calderhead referred to a surplus it had earned several years ago. "Then your position is that the railroads should live off their fat until conditions change," said Mr. Clark.

Mr. Calderhead said that the railroads had abandoned the unified operation of terminals put into effect by the Railroad Administration and had thereby increased their costs. He said that at Seattle prior to 1918 five railroads operated their yards individually. These were consolidated under a terminal superintendent without changing any tracks and the average delay to cars in passing through the yards was reduced from 15 days to 5 days. Since the termination of federal control the roads have adopted a zone system in which each railroad switches for all the roads in its own zone but the time has been increased to 9 days.

J. E. Benton asked the witness if he knew of any money wasted in the construction of roads in the northwest. Mr. Calderhead said it was the contention of his commission that the construction of the Spokane, Portland & Seattle and the competitive lines in the Des Chutes canyon served no public interest and that they ought to be junked and the rails and ties used somewhere else. Commissioner Aitchison led the witness through the history of the construction of those lines and of the rivalry between the Hill and Harriman interests saying that the Oregon-Washington company had acquired expensive terminal property in Seattle and Tacoma while Mr. Hill seemed to be planning the construction of a line south to San Francisco and that both projects had been discontinued at about the same time. Mr. Aitchison also brought out that the unused terminal property is included in the book investment account and Mr. Calderhead said that the cost of the roads built for competitive purposes and not needed should be eliminated from consideration in the rate case. He said the rival interests had sought to make it as expensive as possible for each other and that operating officials to-day are showing the same disposition rather than attempting to co-operate. Asked what he would do if he were a railroad general manager, Mr. Calderhead said he would resign, because the operating officials do not have the proper support from their executives.

J. F. Shaughnessy, of the Nevada commission, also appearing for the Intermediate Rate Association, representing

Nevada, Eastern Washington, Eastern Oregon, Montana, Idaho, Utah, Arizona and New Mexico, urged that the intermountain territory should be exempted from the 24 per cent increase proposed by the western lines on the ground that there should first be an equalization of the rates that discriminate against that section before a further advance is made and that the shippers of the section cannot stand a further increase at this time. He read telegrams and letters from the state commissions and various shippers and also from officers of short line railroads expressing the opinion that the proposed increase would "dry up traffic." He read a long statement of the position of the intermountain state commissions which Chairman Clark said was largely argumentative but might be continued with the understanding that the argumentative part of it should not be taken as an excuse for a long cross-examination of the same character.

Mr. Shaughnessy said that the revenues of 1919 should not be considered as a proper basis because so large a proportion of the freight traffic of the western roads was government business handled at land grant rates and that this traffic is now being replaced by commercial traffic at full rates. When Mr. Wood asked him if he had any idea of the amount of money involved in the land grant reduction Chairman Clark said that Mr. Chambers had testified that it amounted to about \$5,000,000. Mr. Shaughnessy insisted that this figure was too low and that it ought to be at least a billion dollars for the two years 1918 and 1919. It was pointed out to him that land grant reductions did not apply on all roads and only on parts of those roads, although competing lines met the land grant rates for the portion of the haul covered by land grants, and Mr. Wood asked him if he would change his estimate any in view of the fact that the freight earnings of all the western roads last year amounted only to about \$1,500,000,000, Mr. Shaughnessy suggested that the commission make an investigation of the matter. Mr. Shaughnessy thought the railroads ought to follow the example set by the United States Steel Corporation in refraining from increasing steel prices in the interest of an effort to stabilize conditions.

M. M. Caskie, representing the Southern Traffic League, presented an exhibit made up from the monthly reports of the southern roads for the first three months of 1920 to show that they had already in those months earned more net operating income than the results for a full year shown by the exhibits based on the year ended October 31, 1919, readjusted for increases in expenses. He said his league is a member of the National Industrial Traffic League but did not entirely agree with the position expressed by its committee. His exhibit showed that the southern lines in three months had earned \$17,000,000 net operating income, as compared with the \$16,000,000 for the constructive year and that on the basis of the three months figures being equal to 21 per cent of a full year they would earn for the year a net operating income of \$80,885,000. Therefore, he said, they would need an increase of only \$48,000,000 to produce the \$129,435,000 required to make a 6 per cent return on property investment, which would mean an increase in freight revenues of only 12.9 per cent instead of the 31 per cent asked by the southern lines. The net operating income for the three months had shown an increase of 115 per cent over 1919, after deducting the retroactive mail pay included in the January accounts and after paying the increased expenses which the railroads had used in making up their figures. He had not included the month of April because it was "abnormal." Counsel for the railroads asked for time to examine the exhibit and the work sheets from which it was made up before beginning cross-examination on it because it was subject to some arbitrary adjustments. For example most of the revenue of the Illinois Central had been attributed to the southern line. C. E. Cotterill, counsel for the Southern Traffic League, also filed a

statement recently made by the governor of the Federal Reserve Board indicating an effort toward deflation which Mr. Cotterill said indicated some possibility of a reduction of prices. R. V. Fletcher, of the Illinois Central, asked if he had taken into consideration the possible reduction in tonnage which might accompany a deflation.

H. T. Moore, traffic manager of the Atlanta Freight Bureau, said he was a member of the special committee of the National Industrial Traffic League and that its statement does not represent the views of those he represents. W. A. Wimbish, counsel for the freight bureau, brought out from the witness that there are many outstanding orders of the Interstate Commerce Commission affecting rate adjustments in the south which if the wishes of the carriers prevail may result in substantial increases in revenues.

H. W. Prickett, traffic manager of the Utah Traffic League, of Salt Lake City, said there is no opposition to a proper increase in rates but that there is opposition all over the country to the disturbance in relationships that he said would result if the carriers' proposals are adopted, and he thought the transcontinental lines are not in need of an advance and should be segregated. He also thought an exception should be made in advance of the low grade ore traffic, which he said would not move if subjected to the 24 per cent advance. Mr. Wood brought out from the witness that there would be great differences of opinion as to what lines should be grouped as transcontinental lines or which should be segregated and that if the Union Pacific, which the witness had used as a basis for an exhibit, were to be taken as the standard it would probably result in preventing any increase for the other lines. Mr. Wood also brought out that there would be great differences of opinion among shippers as to what adjustments should be made if an effort were made to preserve relationships at the time the general advance is made. Mr. Wood said it would take several years to get the views of all shippers on the subject but that the roads would undertake to make the adjustments on which shippers could agree.

H. R. Brashear, traffic commissioner of the St. Louis Chamber of Commerce, objected to any attempt to apply a percentage advance while retaining fixed differentials in cents per hundred pounds, on the ground that the effect would be to the disadvantage of St. Louis as compared with Chicago. He said a straight percentage should be applied even if it widens the differential and that the relation thus established should be maintained. The St. Louis shippers would not want to have preserved either the present differential or the one that applied before General Order No. 28.

M. C. Moore, rate expert of the Mississippi Commission, said the railroads should be allowed a 5½ or 6 per cent return, but he presented numerous exhibits to show that rates in Mississippi are already higher than they ought to be relatively and should not be increased as much as other rates.

J. E. Benton read a statement on behalf of the National Association of Railway and Utilities Commissioners, which as an association has taken no position regarding the rate advance, saying that it is the disposition of most of the state commissioners to rely on the thoroughness of the investigation to be made by the Interstate Commerce Commission. The record of the hearings is being distributed to the various state commissions by the association at the expense of the railroads and it was the view of the commissioners who attended a recent conference at Chicago that any hearings to be held subsequently by state commissioners might be expedited by its use without the necessity of recalling the same witnesses, but each commission would determine for itself what supplemental evidence should be taken and the association had not even made a recommendation to the commissions as to what use should be made of the record.

Mr. Benton also read statements from three commissions that had asked him to present their views. The Railroad

Commission of Louisiana said it would make no objection to a reasonable advance because the demand of the carriers seems well founded but it wished to reserve the right to make any necessary local adjustments later and it objected to the application of the Southwestern lines for a larger increase than that asked by the western roads generally. It also expressed the opinion that a uniform percentage advance is the best way of accomplishing the desired result. The record of the hearings so far has been convincing that the railroads need an advance, although the figures seemed somewhat high, but the inclination of the Louisiana commission is to follow the action of the Interstate Commerce Commission in applying the advance to state rates in so far as that can be done without undue hardship, because it would be impractical and unwise for each state to make its own investigation and put into effect different amounts of advance.

The Public Utilities Commission of Connecticut expressed itself in favor of co-operation between the federal and state commissions and in general recognized that the necessity for improved transportation service requires rates more in keeping with the present level of prices.

The Public Utilities Commission of Maine urged that the increase in rates should not exceed 30 per cent and that no higher increase be allowed in New England than in Official Classification territory generally.

In closing Mr. Benton expressed appreciation of the action taken by the Interstate Commerce Commission in inviting three state commissioners to sit with it during the hearings, as a step in the right direction.

Mr. Benton then introduced James Q. Gulmac, president of the Maine Chamber of Commerce, who had been delegated by a conference representing the state commission and the business interests of the state generally to present their views as to the necessity for a rate advance in order to enable the railroads to give the "same kind of good service which they remember." Recent experiences with poor transportation service, he said, had made the shippers realize how great an interest they have in the prosperity of the railroads and they are willing that their rates shall be increased by whatever amount is necessary to give good service. "We propose to pay our share," he said. "The only thing that we ask is that it be a percentage advance and the same for New England as for the rest of the eastern section."

The sawmills, he said, are dependent upon regular transportation service, and the shortage of cars has seriously interfered with the production of potatoes, pulpwood, lumber and ties. He thought that if it were possible to furnish cars they would have been supplied for ties, but it had been necessary to pile them up for long periods to await cars for loading. Shippers are also affected by the inability of connecting lines to deliver shipments promptly after they are once started on their way. He mentioned an instance where a shipper had been given a trial order for shooks for Poughkeepsie, N. Y., on condition he could make prompt shipments, but the load had to be transferred and didn't get to Poughkeepsie for a month, with the result that the new customer was lost. The potato crop will be reduced this year because of the inability to get enough shipments of fertilizer and it was necessary to carry over a part of last year's crop through the winter because of car shortage last fall while many of the shipments made during the winter were lost because of a shortage of heated equipment. Mr. Gulmac said he did not believe the inefficiency of labor is peculiar to the railroad business because the same thing has been experienced in other lines of business. For instance, Maine woodsmen have had their wages increased over 100 per cent and, generally speaking, the same men are still employed, but they are doing less work than formerly.

"The lack of the service we remember once having received made us realize our interest in the railroads," he said, "and

we know that the railroads have no mysterious way of paying their bills except from the rates which we as shippers must pay. We also have come to a realization that we are interested in railroad securities through mutual savings banks and insurance companies, but some of our banks have so much of their resources in railroad securities that they have asked us not to talk about it too much. We think it is about time to stop this antagonism to the railroads and this talking about the abuses of the past and as shippers we are prepared to do our part."

Mason Mangum, representing the Virginia Corporation Commission, stated that the commission feels it has not the facilities and is in no position to determine what increases the carriers need, but it will be in sympathy with anything the Interstate Commerce Commission may find them entitled to. It is of the opinion, however, that an increase in rates alone will not solve the transportation problem or improve the credit of the railroads and that there should be an intensive campaign for increasing economy and efficiency. If rates are to be increased it is in favor of a straight percentage advance.

R. C. Fulbright, representing the Southwestern Industrial Traffic League, said he was not opposed to substantial rate increases, but that the 32 per cent asked by the Southwestern railroads is not necessary and that the solution of the rate question alone will not bring about the necessary improvement in transportation conditions. The railroads, he said, face three major problems, first, the labor problem; second, the revenue problem, and, third, the tax problem. He said it would be difficult to induce investors to become interested in railroad securities as long as they are burdened with heavy income taxes which reduce the return below that of tax free governmental securities.

On June 15 the presentation of general testimony was completed and the program until June 22 provides for the hearing of those interested in particular commodities. Several representatives of coal shippers testified regarding the adjustment of rates as between the different fields. They did not object to an advance in rates, but some were in favor of a general percentage increase, while others insisted upon the maintenance of existing specific differentials, while others are in favor of a percentage advance in some rates, but the maintenance of fixed differentials in other places. F. T. Bentley, traffic manager of the Illinois Steel Company, in advocating a straight percentage advance, including the application of the percentage to differentials, said that "to a man who has 7,000 carloads of freight on the ground and is threatened with having his mills shut down at any time, the question of rate adjustments seems like small potatoes."

In reply to a question asked by the commission as to the number of passenger miles in Pullman or parlor cars which would be subject to a surcharge if applied in the same manner as used by the director general for 1918 a statement was filed by the railroads based on an estimate made by the Pullman company that the paying passengers carried one mile in 1919 were 13,593,000,000, and that a surcharge of one-half cent per mile applied to that figure would yield \$67,965,000.

A statement was also filed in reply to a question by the commission showing the roads that would earn more than 6 per cent on their property investment on the basis of the constructive year ended October 31, 1919, as adjusted by the carriers in their exhibits to reflect conditions at the end of the year, after applying the proposed percentages of increase. This showed 20 roads in the Eastern district that would earn \$104,492,168 in excess of 6 per cent, 15 roads in the Southern district that would earn \$25,769,801 in excess of 6 per cent, and 20 roads in the western district that would earn \$85,480,810 in excess of 6 per cent.

That the passenger service on many roads is now relatively

more profitable than the freight business, because of the greater increase in ordinary passenger fares than in freight rates made by order of the Railroad Administration and because of the larger number of passengers carried per train since the passenger service was curtailed, was indicated by a statement filed at the request of the commission analyzing the freight and passenger earnings and expenses for 13 representative roads for the year 1919. On 10 of the 13 roads a lower operating ratio was shown for the passenger service than for the freight service, after making the separation of expenses as between the two services in accordance with the commission's rules. The revenues, expenses and ratios for the 13 roads were as follows:

RATIO OF FREIGHT AND PASSENGER SERVICE EXPENSES TO FREIGHT AND PASSENGER SERVICE REVENUES		
	Freight service	Pasenger service
Atchison, Topeka & Santa Fe:		
Revenues	\$126,284,953	\$53,619,545
Expenses	94,126,057	36,376,187
Ratio—per cent	74.53	67.84
Atlantic Coast Line:		
Revenues	\$40,883,937	\$21,058,082
Expenses	36,608,794	16,891,117
Ratio—per cent	89.54	80.21
Baltimore & Ohio R. R.:		
Revenues	\$142,139,030	\$40,480,986
Expenses	139,121,312	30,747,813
Ratio—per cent	97.88	75.96
Chicago & North Western Ry.:		
Revenues	\$93,840,645	\$45,749,271
Expenses	84,842,474	34,736,913
Ratio—per cent	90.41	75.93
Chicago, Burlington & Quincy:		
Revenues	\$107,019,788	\$42,168,537
Expenses	91,825,897	28,667,065
Ratio—per cent	85.80	67.98
Erie System:		
Revenues	\$84,757,710	\$22,916,321
Expenses	81,150,881	20,560,633
Ratio—per cent	95.74	89.72
Great Northern Ry. System:		
Revenues	\$80,016,453	\$27,011,981
Expenses	64,576,561	22,689,116
Ratio—per cent	80.70	84.00
Louisville & Nashville R. R.:		
Revenues	\$78,335,155	\$29,179,811
Expenses	73,987,280	19,243,979
Ratio—per cent	94.45	65.95
New York Central R. R.:		
Revenues	\$197,336,000	\$113,696,821
Expenses	180,470,870	68,469,765
Ratio—per cent	91.45	60.22
Cincinnati Northern R. R.:		
Revenues	\$2,581,960	\$290,309
Expenses	1,833,260	328,335
Ratio—per cent	71.00	113.10
Cleveland, Cincinnati, Chicago & St. Louis:		
Revenues	\$52,405,309	\$21,451,147
Expenses	43,732,129	13,695,323
Ratio—per cent	83.45	63.84
Pennsylvania R. R.—Eastern Lines:		
Revenues	\$237,304,970	\$120,555,489
Expenses	232,932,107	119,537,432
Ratio—per cent	98.16	99.16
Southern Ry.:		
Revenues	\$81,811,428	\$42,302,970
Expenses	80,580,504	33,164,308
Ratio—per cent	93.50	78.40

Advances in Rates on Foreign Railways

THE COMPARATIVE ADVANCES in freight and passenger rates in foreign countries and in the United States was the theme of an editorial in the *Railway Age* of May 7, page 1335. Since that time the official "Journal" of the British Board of Trade compiled similar data summarizing the total advances in rates which have been made by the principal countries of the world since the beginning of the war. This summary, which follows, amplifies and amends the figures contained in the *Railway Age*'s editorial and is accordingly presented without comment.

In France passenger fares have been advanced as follows: First class, 80 per cent; second class, 75 per cent; third class, 70 per cent. An increase of 25 per cent was imposed in March, 1918; the further advance to the above percentages is provisional and has been so far sanctioned only for 1920. The provisional increase in freight rates for 1920, with a corresponding advance in subsidiary charges, brings the total increase in rates to 140 per cent. There has been allowed a graduated system of abatements in passenger fares for members of families—the larger the family

the greater the abatement. Soldiers with 50 per cent disability and over are carried at quarter fares.

In Belgium both passenger fares and freight rates have been advanced by 100 per cent above pre-war charges.

In Italy, as in France, the advances in fares are graduated according to class. The increase for first class is 120 per cent, for second class 100 per cent, for third class 60 per cent, and for passengers' luggage 120 per cent. The rates on foodstuffs, fuel, certain raw materials and building materials have been advanced by 40 per cent; other goods pay 100 per cent more.

In Greece rate advances have totaled 30 per cent, the advance to continue for one year after the end of the war.

Portugal has imposed a 57 per cent increase on both passenger fares and freight rates.

In Holland passenger fares have been advanced about 75 per cent, and the advances in freight rates range from 70 to 140 per cent.

Passenger fares in Switzerland have increased by about 100 per cent, and freight rates by about 180 per cent.

In Sweden the graduated system has been applied to passenger fares, so that first class passengers pay 200 per cent more than before the war, the second class pay 150 per cent more, and the third class 100 per cent more. The advance in freight rates is 200 per cent.

Norway has also graduated the increases in fares as follows: First class, 180 per cent; second class, 80 per cent; third class, 60 per cent. Freight rates have been increased by about 150 per cent.

The actual increases in Spain amount to no more than 15 per cent, but the following additional increases are proposed: First class passengers, 50 per cent; second class, 48 per cent; third class, 45 per cent; freight, 50 per cent.

In so far as can be ascertained, passenger fares in Austria have increased by about 290 per cent, and freight rates by about 390 per cent. Demurrage rates have increased by 200 per cent.

Hungary has advanced passenger fares by about 240 per cent, and freight rates by about 300 per cent, and further increases have been proposed.

In Canada the increases in force amount on the average to about 40 per cent on passenger fares and freight rates. Further increases of from 30 to 40 per cent are proposed.

In New South Wales passenger fares have gone up by from 5 to 50 per cent, and freight rates by 10 per cent.

Victoria has advanced passenger fares by from 5 to 10 per cent, and parcels by 10 per cent. Freight rates have gone up by from 5 to 33 1/3 per cent. Further increases have been proposed.

South Australia has abolished return fares and some other railway privileges. Freight rates have been put up by 10 per cent generally, though grain rates remain unchanged.

Western Australia has abolished privileges, such as traders' and commercial travelers' tickets, and has increased season tickets. Parcels rates have also been advanced.

In Egypt passenger fares have advanced by about 100 per cent, and freight rates by from 50 to 150 per cent.

In Brazil, on the state-owned Central Railway, fares and rates have been advanced 20 per cent.

Freight rates have been advanced by about one-third on the Argentine railways.

Information from Russia cannot be depended upon. But it may be of interest to mention that the advance in Russian passenger fares is stated to be 1400 per cent, and the advance in freight rates 3400 per cent. These figures indicate depreciated currency rather than increased working costs, though no doubt there has been a substantial real rise in costs.

The increases in England have been as follows: Passenger fares, 50 per cent; freight rates, 25 to 100 per cent, plus terminal charges per ton of 3d to 1s. Average freight rate increase (estimated), 71 per cent.

General News Department

The Signal Division of the American Railroad Association holds its annual meeting at Alexandria Bay, N. Y., on July 14, 15 and 16; not in June, as stated in our issue of June 4.

The American Train Despatchers' Association is holding its third annual meeting in New York City, Hotel Commodore, this week. The number of members in attendance is about 250. They have listened to addresses by William G. McAdoo, L. E. Shepherd and J. L. Cone.

Automobile travel between New York and Philadelphia is now hindered by bad roads; the increase in freight traffic by automobile trucks, due to congestion on the railroads, has put the highways in such bad condition that the Automobile Club of America advises persons touring for pleasure to go by one of the roundabout routes.

The Louisville & Nashville has been ordered by the Public Service Commission of Alabama to re-establish telegraph service at 21 towns on its line where the Western Union has gone out of business. Following protracted litigation, the telegraph wires and apparatus operated by the Western Union were on May 1 turned over to the railroad company. Calling upon the railroad to do a general telegraph business, the officers of the state call attention to the fact that some years ago, in connection with its controversy with the telegraph company, the road advertised its readiness to transmit messages for the public.

Two all-metal airplanes, racing, were flown from Washington, D. C., to Central Park, Long Island, on Saturday, June 12, in less than two hours and a half, the estimated speed of the winner being 102.5 miles an hour for the estimated distance, 248 miles. The second one arrived six minutes behind the first. The aviators were Colonel Wilson and Colonel Gilmore, and each car carried five other army officers. The airplanes were the new Larsen monoplanes, built entirely of metal, with internally braced wings. Colonel Wilson, the winner, said that on the trip he wrote three letters. "The writing is legible and firmer than if I had done it on a Pullman car."

The Chamber of Commerce of the United States has asked its organization members to vote on two recommendations: (a) Strikes by employees of all public service corporations, performing public service essential to the lives, health, well being and comfort of the people should be explicitly prohibited by law. (b) Suitable tribunals should be created by the law to adjudicate differences between employees of public service corporations and their employers, and the decisions of such tribunals should be final and binding upon both parties. The subject came before the Chamber from the Merchants' Association and other business organizations of New York City.

In a rear collision of northbound trains on the elevated structure of the Interborough Rapid Transit Co., at Freeman street, New York City, on the 10th of June, a motorman was killed and nine passengers were injured, one of them fatally. The leading train was at a standstill, and its rear car (steel) was crushed for a length of about fifteen feet. In connection with the investigation of this accident the view was expressed that the motormen, after running several miles underground and then emerging on to an elevated structure are inclined to turn their eyes away from the line ahead; and it was said that the Public Service Commission of the State had informally recommended that the windows at the side of the motorman's cab should be made of ground glass.

Director General Payne of the Railroad Administration announces that J. A. Franklin having resigned, the offices of labor assistants to the director general of railroads were

abolished on June 1. Executives of railroads heretofore under federal control are requested to dispose of labor matters involving grievances or service rights arising prior to March 1, in accordance with the provisions of the general orders, supplements, interpretations and national agreements, referring to C. S. Lake, staff officer of the Railroad Administration, matters upon which agreements are not reached involving payments of money for services claimed to have been rendered for which payment has not been made or those involving the payment of money in excess of nominal amounts to cover settlements mutually agreed upon.

Master Blacksmiths' Association

The International Railway Master Blacksmiths' Association will hold its next annual convention at Tuttwiler Hotel, Birmingham, Ala., on August 17, 18 and 19. The president of the association is A. L. Woodworth, Lima, Ohio. The president of the Supply Men's Organization is H. D. Kelley, 1427 Western Avenue, N. S., Pittsburgh, Pa.

K. C. S. Valuation

The Interstate Commerce Commission has announced a hearing in the Kansas City Southern valuation case for the purpose of receiving evidence tending to establish the present cost of condemnation and damages or of purchase of lands, exclusive of improvements thereon, included in the right of way and terminals of the Kansas City Southern system, in excess of the original cost and in excess of the present value. This is the evidence which the commission is required to take into consideration by reason of the recent decision of the Supreme Court. The hearing will be held before Examiner Hillyer at Kansas City on June 21 and will be continued to such places and times as may be necessary.

Train Orders by Telephone

The telephone did not displace the telegraph as a safer method but as a quicker one. There will never be a telephone built that will be as safe for the transmission of train orders as the telegraph. There are certain different words which over the telephone sound so identically the same that the difference often is not detected. I have in mind a telephone order which I once issued for two trains to meet at SLATER. Although in sending this order I spelled out Slater, letter for letter and then pronounced it, yet one of the operators somehow received it CORDER. Strange to say, when he repeated it Corder, it sounded so much like Slater that I doubt whether the keenest perception could have detected the error. I did not. But, as all despachers know, there are times when something tells us that things are not right. Luckily this feeling came to me and I had the operator repeat again. With the second repeating the word CORDER came clear and distinct so that the error was caught and corrected. During the long term of years that I have been using the 'phone, at least a dozen cases similar to the above have put in their appearance; but, fortunately, I have so far managed to detect them before it was too late.—E. A. Howard, in *The Train Despatcher*.

Motor Trucks Substituted for Work Train

On the Middle division of the Pennsylvania Railroad, and also on the Philadelphia division, automobile trucks, running on the highway, have been in use during the past year for delivering supplies to stations, taking the place of a work train, and it is estimated that, taking the two experiments together, there has been made an annual saving of over \$5,000.

From a brief statement printed in the Mutual Magazine of

the Pennsylvania railroad employees, it appears that these tracks were put into use in January, 1919, between Philadelphia and Paoli, about twenty miles, and in the vicinity of Newport, Pa. In both cases the public highways are parallel to the railroad, and except in the case of two signal cabins, access to all points is convenient. Delivery of coal and removal of ashes constituted the heaviest work done; but supplies for stations and for carpenter work, cement, gravel and other things were carried. The plan was adopted because of the increased track work demanded of the work trains. One of the trucks is of two tons capacity and the other five tons. The use of the trucks has also done away with some expense items formerly necessary in the hiring of teams.

The annual operating expenses of the two trucks, including interest and depreciation, amount to \$10,375. Compared with this is the annual cost of the work trains and of hired teams, \$15,899; annual saving \$5,524.

The Republican Railroad Plank

The Republican party is unalterably opposed to any form of government ownership of the nation's railroads. This attitude was expressed in plain terms at the recent national convention of the party held at Chicago from June 8 to June 12. In preparing the party's platform, much consideration was given to this subject with the result that the following plank was prepared and adopted without dissent:

"We are opposed to government ownership and operation or employee operation of the railroads. In view of the conditions prevailing in this country, the experience of the last two years, and the conclusions which may fairly be drawn from an observation of the transportation systems of other countries, it is clear that adequate transportation service both for the present and future can be furnished more certainly, economically and efficiently through private ownership and operation under proper regulation and control.

"There should be no speculative profit in rendering the service of transportation, but in order to do justice to the capital already invested in railway enterprises, to restore railway credit, to induce future investments at a reasonable rate, and to furnish enlarged facilities to meet the requirements of the constantly increasing development and distribution, a fair return upon actual value of the railway property used in transportation should be made reasonably sure, and at the same time to provide constant employment to those engaged in transportation service, with fair hours and favorable working conditions at wages or compensation at least equal to those prevailing in similar lines of industry. We indorse the transportation act of 1920 enacted by the Republican congress as a most constructive legislative achievement."

The Canadian National

The Grand Trunk and the Canadian National Railways are being made into a single organization as rapidly as possible. Consolidation of dual offices at various points has already been decided on. The passenger tariff bureaus of the two roads will be consolidated by transfer to the Grand Trunk offices. At Montreal and Ottawa the work of the Grand Trunk ticket offices will be transferred to the Canadian National, and the work of the Canadian National city ticket offices at Toronto and Hamilton will be taken care of in Grand Trunk offices. Separate offices will no longer be necessary at New York. The Canadian National freight substation at Dufferin street, Toronto, will be consolidated with the Grand Trunk sub-stations at Parkdale and West Toronto.

A connection will be made between the two systems at Pembroke, Ont., to permit the interchange of freight and passengers, and the joint use of the Grand Trunk terminals. The consolidation of the Canadian Express and the National Express Companies is expected.

Combined through passenger services have been authorized as follows, to take effect June 27:

(1) Daily passenger train service between Montreal and Sudbury, via Grand Trunk to Ottawa, thence Canadian National Railways to Sudbury via Capreol. Also the tri-weekly operation of this train to and from Winnipeg.

(2) Daily passenger train service between Toronto and Winnipeg, over the Grand Trunk to North Bay, the Temiskaming & Northern Ontario to Cochrane, thence Canadian National to Winnipeg. These trains connect at Winnipeg with daily passenger trains between Winnipeg and Vancouver, over both the Grand Trunk Pacific and the Canadian National.

Views of the Illinois Manufacturers'

Association on Wages

A statement, outlining the views of the Illinois Manufacturers' Association on the billion dollar demands of railroad workers now being considered by the Railroad Labor Board, was filed with the secretary of that board on June 5.

It says, in part:

"1.—The practice of basing wages on the cost of living, without taking into account the work performed for the wage, is, in our opinion, at the very bottom of the present disturbed and unsatisfactory labor condition. It is usual now, in presenting claims for wage advances, to attach an estimated family budget, upon which the percentage of wage increase is predicated. Unfortunately this family budget is presented only to further the claims of a particular body, but we believe it to be the duty of your board to consider where a universal application of the budget presented in the railroad case would lead.

"If we accept the statement that \$1,700 represents the lowest subsistence level and \$2,500 the lowest comfort level for an American family, and base the scale of wages on the assumption that every man engaged in transportation service, no matter where he lives, whether married or single, is entitled to a wage based on a scale with those figures as minimums, would it not be fair to assume that every wage earner in every character of employment everywhere in this country is entitled to a scale based on that same minimum? * * * If so, the farms, the mines, and the industries would be wholly unable to meet it on a straight time basis. You would improve the living conditions of railroad employees by impairing those of all the other workers.

"Your Board can render a signal service to the country by indicating to these claimants that while wages should be equalized in those cases that have lagged behind in the wage readjustment, wages cannot be paid unless they are earned, and that we cannot get more out of the common pot than we put into it.

"2.—The divorce of wages from production has been one of the calamities of the war, for it has created in the mind of the wage earner the delusion that, irrespective of output, performance, or character of service rendered, he is entitled to live on a certain scale. When the consumption of commodities has expanded, and world production of commodities has been greatly impaired, we have established a shorter working day, have abolished piece and premium forms of payment, and have imbued the wage earner with the idea that he is entitled to a good living if he but spends eight hours at a job. * * * We have no intention of arguing against a fair increase. * * * You should emphasize the necessity, during these times of extraordinary prices, that part at least of the increased cost of living shall be met by longer hours of service and increased output, and that piece and premium rates of payment, which during Government operation of the roads were wholly abolished, should be reestablished.

"3.—The industries have for the past 18 months been adjusting their wage scales to meet the changed conditions. We think your Board should be guided by the rates obtaining in similar crafts in the industries, or you will force another readjustment, to be followed by another increase in the price of commodities. The industries can quickly adjust themselves to conditions of supply and demand in the labor market, but the scale fixed by your Board will be of a rather permanent character. Unless provision is made for readjustment when conditions change, high wage rates and their concomitants, high freight rates, are likely to endure longer than conditions justify.

"4.—The advances in cost of living have affected most adversely the lowest paid wage earners, and the increases in the wages paid unskilled labor have, therefore, been largest. It is only fair to suggest to your Board, therefore, that no uniform percentage increase in wages be granted, but that the rate of wage increase be greater in the lower paid classes than in the higher."

Traffic News

Schedules of suburban trains on Chicago railroads were changed on June 13 to conform to the daylight saving ordinance which became effective in that city on that day. Other schedules were left unchanged.

Attendance at the Republican National Convention of 1920, which opened at Chicago on June 7, failed to approach the high total expected by railroad men. The number of visitors, which at former times has been as high as 150,000, fell to about 40,000 this year.

Among the bills affecting railroad interests not acted upon by Congress before it adjourned on June 5 was the bill introduced by Senator Frelinghuysen and favorably reported by the committee on interstate commerce, providing for seasonal freight rates on coal to promote coal buying and production during the summer months.

Representatives of railroads operating in western classification territory in Louisiana held a meeting at New Orleans, La., on May 28, to form an organization for the purpose of interchanging information with regard to rates, rules and regulations. Joseph Lallande, general freight agent of Morgan's Louisiana & Texas, New Orleans, acted as chairman. At a later date formal organization will be effected.

The Southern Freight Rate Committee has appointed sub-committees at Atlanta, Ga.; Jacksonville, Fla.; Louisville, Ky.; Memphis, Tenn.; New Orleans, La.; and Richmond, Va. Each of these sub-committees will meet regularly on Monday of each week and interested persons may appear before them on any subject assigned for hearing. Boards of Trade, Chambers of Commerce and other associations, as well as individual shippers, may express their views upon any contemplated changes in freight rates or regulations.

The New York Central has asked the Interstate Commerce Commission to investigate the situation that would be created if the New York Public Service Commission should order the railroad to restore the two-cent rate for passenger fares. The law authorizing the consolidation of the New York Central and the Hudson River imposed a maximum of two cents a mile for local passengers between Albany and Buffalo and resulted in forcing down the through fare and other fares in the state of New York. New York Central fares are now three cents a mile, the rate put into effect by the Railroad Administration, which rate continues in effect, by virtue of the federal Transportation Act, until September 1.

Pre-payment of freight charges on all carload shipments of watermelons which have not been treated against the stem-end rot disease will be absolutely required by the railroads in Georgia this year, according to notices in Southern papers. This action is taken in an effort to control this disease, which has threatened the watermelon industry. The Atlantic Coast Line has issued statements through its agents notifying the shippers in regard to the matter. All agents have been notified to give their co-operation in inspecting the melons to be shipped and seeing that the treatment for the stem rot is applied. This treatment is in the shape of a paste that is applied to the stem of the melon. Agents are asked to get the drug stores to lay in a supply of the powder used for the paste.

The Marinette, Tomahawk & Western has been ordered by the Wisconsin Railroad Commission to resume freight train operation on its Spirit Falls branch line and to operate such trains as are necessary to move the products available for shipment. Not less than one train in each direction, on three stated days of each week must be operated, provided, however, that on such stated days, when there is no demand for transportation in either direction, individual trips may be annulled. The order results from an informal complaint made to the Commission that operation had been suspended

on the branch named. The Commission's investigation and public hearing brought out the fact that the branch in question had been sold and that the purchasers refused to consider the line a common carrier, even while operating and receiving pay for transporting freight. The Commission found that there is much potential traffic along the branch and that transportation is a necessity.

Observations of a Shipper

A trainload of flour from Kansas City arrived in New York on June 9 in charge of H. D. MacCarthy, traffic manager for the Southwestern Milling Company, and who ten days ago brought through another trainload for the same concern. Mr. MacCarthy says, as quoted in the Journal of Commerce, that while conditions along the way appeared somewhat better than they did on his last trip, they are still bad enough, and it was a very difficult matter to get single cars through without very serious delays. He had read so much in the papers about whole trains of empties going west to move grain that he was on the lookout for them, but failed to see an empty car moving westward; Kansas City is getting more cars from western roads than from the east and eastern roads are still jammed full of loaded cars moving toward the seaboard. He says that the switchmen's strikes are not clearing up as much as reported, and that his talks with the trainmen lead him to believe that they are contemplating going out unless they get more pay.

The General Freight Congestion

The freight situation in the east is recovering slowly. In New York city the strikes of longshoremen and the sympathetic boycotting by teamsters, which are the main present causes of the widespread costly and troublesome delays, continue unabated, but active efforts at a solution of the deadlock are reported daily. Conferences in New York and Washington give hope that the coastwise steamship lines will soon be authorized by the Interstate Commerce Commission to advance freight rates and that this will remove their chief objection to granting the increases of wages that are asked for. The merchants who propose to establish an independent "open-shop" trucking corporation in Manhattan are carrying out their plans, but have not yet started any trucks.

The federal court in Brooklyn, N. Y., has granted an injunction against truck drivers, certain unions and others, forbidding discrimination against a lumber shipper whose employees are on strike.

Transportation in the West

The transportation situation still remains acute in practically all of the larger terminals in the west and middle west, and during the past week has shown little improvement over the preceding week. In spite of the efforts of the car service commissions and terminal committees, appointed by the Interstate Commerce Commission, the problem of shipping essentials and non-essentials is no nearer solution. A shortage of cars and labor is still the predominating factor in the situation and until this condition is materially improved it is not likely that the shippers can expect much relief. The coal situation throughout Ohio is still bad and the expected results of the work of the Car Service Commission have not yet been noticeable. While in certain instances the supply of cars for coal mines has been greater, as has been the situation with regard to other industries, many mines have also had a smaller supply of cars during the past week than they have had for several weeks. Production has shown no increase in output and in the meanwhile the scarcity of fuel exists as much as ever. The prices of coal have shown a slight increase. Due to the lack of fuel and raw materials, various industries have announced that they are taking on no new men and in some places are laying off men.

Comparative figures in car loading on some of the larger roads are given below:

	1919	1920
Chicago & Northwestern (two weeks ending June 12)....	41,975	43,981
Atchison, Topeka & Santa Fe (week ending June 11)...	25,647	27,988
Chicago, Burlington & Quincy (week ending June 12)...	34,460	27,988

The Indiana Harbor Belt moved 3,911 more cars during the second week of June, 1920, than in the same week in 1919.

Commission and Court News

Interstate Commerce Commission

The Commission has issued an amendment of its order to fourth section order No. 3,700 to provide that a longer line or route may reduce the rates in effect between the same points or groups of points to meet the rates of a shorter line or route under the following circumstances: (a) where the longer line is meeting a reduction in rates initiated by the shorter line; (b) where the longer line has not at any time heretofore met the rates of the shorter line.

The Interstate Commerce Commission has requested that the carriers by railroad submit on or before August 1, 1920, tentative forms of through export bills of lading which they may desire to issue in connection with carriers by water whose vessels are registered under the laws of the United States, and in connection with carriers by water whose vessels are of foreign registry. It is further requested that 500 copies of these forms of through export bills of lading be furnished the commission for distribution to export shippers, and other parties interested, in order that they may have the opportunity to file any objections or suggestions they may desire to make with respect to the form and substance, it being the purpose of the commission to hold hearings and conferences with a view to reconciling as far as possible such differences as may be developed and to define the issues with respect to such differences as cannot be reconciled.

Standard Time Zones Altered

The Commission by a decision issued May 18, prepared by Commissioner Aitchison, modifies the limits of the Eastern time zone so as to include Mount Vernon, Ohio, within that zone. A petition to change the panhandles of Texas and Oklahoma from the Mountain to the Central time zone was denied.

Lower Minimum Weights on Grain Products

In reduced Rate Order No. 488 the Interstate Commerce Commission has ordered certain modifications in the minimum weights on grain products which were put into effect by the Railroad Administration and continued in effect by authority of the commission, because the commission has received complaints that the effect of the emergency minima is in some instances injurious to certain interests. The order was issued after an investigation of the complaints had been made at a conference in St. Louis under the direction of W. V. Hardie, the commission's director of traffic, which was attended by representatives of the shippers and carriers. The order is in part as follows:

It appearing that while transportation conditions are still such as to make a return to pre-war minima at this time undesirable, certain modifications in the existing emergency minima, as indicated in paragraphs 1 to 9 below, should be promptly made by all rail carriers.

And it appearing that there may also be local situations in sparsely settled regions of the country, such as the western portions of Nebraska and South Dakota, where further modifications may be necessary to adequately care for the situation, but the commission is not in possession of detailed information to enable specific findings with respect thereto to be made at this time.

It is ordered that all carriers be, and they are hereby, authorized to establish upon not less than five days' notice to the commission and the public, by filing and posting in the regular manner the minimum weights, rules and regulations specifically set forth in paragraphs 1 to 9 inclusive below, and it is recommended to carriers that an investigation be made of local situations as outlined in the preceding paragraph and applications filed for authority to make such further regulations as appear necessary or appropriate.

(1) Establish upon "molasses feeds" and other so-called "wet" mixed stock feeds rules permitting shipment subject to minimum weight of 60,000 pounds with the proviso that actual weight, but not less than 40,000 pounds, will apply when cars are loaded to within three feet of the roof.

(2) Establish upon all grain products (including other commodities now authorized by tariffs to be shipped in mixed carloads with grain products) now subject to a minimum weight of 60,000 pounds, rules authorizing the shipment of two consignments in one car subject to the provisions of paragraphs (3) to (9) below, such rules to apply alternatively with the existing minimum of 60,000 pounds on single carloads.

(3) Each of the two consignments shall be subject to a minimum weight of 40,000 pounds, with the proviso that if the car be loaded to full visible capacity, the minimum weight on the shipment consigned to the second destination (point farthest distant from the point of origin) will be actual weight, but not less than 24,000 pounds. (See also paragraph 9 below.)

(Note.—When shipments consist of "molasses feed" or other "wet" mixed stock feeds, cars will be considered as loaded to full visible capacity if loaded to within three feet of the roof.)

(4) The destination of one of such shipments shall be directly intermediate to the destination of the second shipment via some route authorized in the tariffs between the point of origin (or in the case of transit shipments, the transit point) and the destination of such second shipment. (See also paragraph 5.)

(5) Circuitous or back hauling to reach the last point of consignment through the first point of consignment will be permitted over the lines of the same carriers not exceeding 25 per cent of the distance to the last point of consignment from the point of origin or the transit point, as the case may be.

(6) The distance from the destination of the first shipment to the destination of the last shipment over the route of movement shall not be greater than one-half the total distance from the point of origin (or in the case of transit shipments, the transit point) to the last destination point via the first destination.

(7) Shippers should load cars in the manner best calculated to facilitate the unloading of each consignment with the least possibility of confusion, error, loss or damage.

(8) Agents at points where cars are partly unloaded should carefully supervise the unloading and get definite check on the quantity removed and condition thereof; also arrange the remaining shipment to prevent damage which might result from movement of car after removal of part of its contents. Agent at point of origin should note on each waybill that shipment is part of a double load.

(9) When both shipments are for the same destination the shipper will be required to indicate at time and place of shipment which consignment shall be considered the first delivery. In such cases notice of arrival and demurrage will be handled as follows:

(a) Where both consignments take team track delivery both consignees will be promptly notified of arrival of car in order that simultaneous unloading may be accomplished. Consignees responsible for detaining a car beyond free period must pay the demurrage charges. In the event of both consignees failing to remove contents within free period demurrage will be collected pro rata.

(b) Where one consignee takes team track delivery and the other private track delivery, or both private track delivery, each transaction will be independent of the other and demurrage will be charged accordingly.

(Note. Reduced Rate Order No. 32 is superseded by the terms of this order and said order is hereby revoked and canceled as of this date.

This order does not authorize cancellation or extension of the present expiration date applicable to emergency minimum weights on grain or grain products).

St. Louis Bridge Differential Approved

The Interstate Commerce Commission, in its decision in the case instituted by the St. Louis Chamber of Commerce, finds that the relationship of rates on coal from mines in Illinois and Indiana, under which the rate to St. Louis, Mo., on the west bank of the Mississippi river, is 20 cents a ton higher than the contemporaneous rate to East St. Louis, Ill., directly opposite on the east bank, is not improper. Owing to the short haul on this coal, the volume of the rate to East St. Louis is held to be insufficient, without an undue depletion of line-haul revenues, to require the absorption of this differential, which is the charge of the Terminal Railroad Association of St. Louis for the transfer of the coal across its Mississippi river bridges and ferries and its delivery in St. Louis. Difference in treatment of differentials on long and short haul traffic is discussed, and the commission says that the mere fact that certain of the lines that bring this coal from the mines to East St. Louis, as a part of the transportation to St. Louis, are proprietary lines of the terminal association referred to, which operates their joint terminals as a unit in and between the St. Louis and East St. Louis rate districts, does not require, as a matter of correct legal interpretation, the application of a common rate to the two districts. Nor is it material to the issue presented in this case whether the cities of St. Louis and East St. Louis are to be viewed as together comprising but a single industrial and economic unit.

The report of the commission says that only a small part of the coal in question originates at the Indiana mines, which are distant from 161 to 229 miles from East St. Louis. Most of it originates at the Illinois mines, which are distant from 9 to 124 miles from East St. Louis, and which are divided for rate-making purposes into 13 related groups. As a matter of fact, the real issue relates to the adjustment from the nearest and largest of these Illinois groups, which is group 2, or the so-called "inner group." It is in this group that

about 80 per cent of the combined St. Louis-East St. Louis coal originates. The nearest mine in this group is 9 miles, and the farthest 82 miles, from East St. Louis. The weighted-average haul from this group to East St. Louis is about 24 miles.

At the time the complaint was filed the rates, per ton, from group 2 were 52½ cents to East St. Louis and 72½ cents to St. Louis. The maximum rates from the other Illinois groups, which were also the rates from the Indiana mines, were 75 cents to East St. Louis and 95 cents to St. Louis. By General Order No. 28 of the director general of railroads these rates have since been increased 20 cents from the Illinois mines and 25 cents from the Indiana mines.

It was the contention of the complainant that, in view of this extensive grouping of the mines, St. Louis and East St. Louis, as destination points separated only by the Mississippi river, should also be grouped, on the theory that together the two cities form in reality but one industrial district, to which a common rate should apply. In this connection reference is made by the complainant to the fact that the two cities are treated as one industrial district in boat rates on the river; live stock rates from the west; lumber rates from the south; and rates on classes and commodities generally, except in some instances on coal, from and to points beyond a hundred-mile zone.

The differential has been 20 cents since 1906. Prior to that time, when the rate to St. Louis was the combination on East St. Louis, it was 30 cents. The Illinois commission has permitted changes from time to time in the intrastate rates to East St. Louis, contemporaneously with changes in the interstate rates to St. Louis, in order to preserve the present differential.

For the year 1916 the tax valuation of the Eads bridge was \$4,200,005, and for the Merchants' bridge \$1,420,205. Based on valuation per mile of Illinois railroads, as determined by the Illinois State Board of Equalization, the tax valuation of the Eads bridge is equivalent, using these roads as illustrative, to 174 miles of the Chicago & Eastern Illinois; 269 miles of the Louisville & Nashville; 360 miles of the Chicago, Peoria & St. Louis; 470 miles of the Litchfield & Madison; and 197 miles of the St. Louis & O'Fallon. Similarly with respect to the Merchants' bridge the figures for these roads range from 58 to 187 miles. At the St. Louis end of the Eads bridge the coal passes through a tunnel about a mile long through a congested portion of St. Louis.

"It was urged by the complainant," the commission says, "that the facilities of the terminal association have been acquired, managed and operated as a unit, embracing both sides of the river and the transfer across, and that they can not be divided for the sole purpose of making different rates to the respective points—in short, that 'a unified terminal means a uniform rate therein.' In other words, the complainant views the matter as one of law, in which the question of greater service by the terminal association on St. Louis coal than on East St. Louis coal has no more place than has the similar question of difference in cost of service by the association on coal destined to different industries in St. Louis itself, which is not reflected in the rate.

"In this connection criticism is made by the complainant of the fact that on East St. Louis coal the proprietary lines absorb the terminal association's charge of 10 cents a ton for terminal delivery, whereas on St. Louis coal they make no absorption of any part of that association's charge of 20 cents a ton, but retain their full rate for the same service that they render on their East St. Louis coal. The reason for this absorption on the east-side coal is said by the defendants to be the competition of carriers that make deliveries on their own lines direct from the mines, with the result that unless the lines that do not reach those same industries with their own rails absorb the terminal association's charge, they will be shut out of those industries with their coal. This 10 cents a ton, it should be explained, is the maximum of the east-side absorption. When another line, in addition to the terminal association, performs a second terminal service, the shipper is required to pay for that service \$3 a car.

"It is the assertion of the proprietary lines, and particularly of certain nonproprietary lines, that they could not continue also

to absorb this 13 cents a ton, if they should be required, as a result of this proceeding, to absorb the terminal association's charge of 20 cents a ton, and that the result would accordingly be that the shippers of nearly two-thirds of the entire coal tonnage of the St. Louis district would be required to pay 13 cents a ton more than the shippers of the other third, in order that the one-third might be placed on a rate parity with the shippers of the East St. Louis coal. Although the allegations of the petition are directed against rates which apply to the whole of the St. Louis district, it appears that the primary concern of the complainant is in the rates to points of delivery reached by the terminal association. It seems to be the contention of the complainant with respect to shipments destined to points of delivery beyond the rails of that association, on which the 13 cents a ton is absorbed, that this is a matter of competition for the east-side lines to settle for themselves, and with which the complainant is not concerned.

"In addition to the 14 proprietary lines of the terminal association the allegations of the petition are directed also against 7 nonproprietary lines, or lines which have no stock interest in the terminal association and which in 1917 originated and transported to East St. Louis, for interchange with that association for completion of the transportation, about 55 per cent of the total volume of St. Louis coal received from the Illinois mines. Five of these are short roads carrying coal almost exclusively. These nonproprietary lines, however, are permitted the use of the facilities of the terminal association on the same terms as the proprietary lines. They make the same absorptions of 10 cents a ton on the East St. Louis coal and 13 cents a ton on the St. Louis coal that the proprietary lines do.

"Substantially the foregoing general situation was presented in *The Illinois Coal Cases*, 32 I. C. C., 659, decided January 29, 1915, where the propriety of this same differential of 20 cents a ton was upheld. Conditions have not essentially changed since then. Neither the subsequent increase in the rates to both St. Louis and East St. Louis, nor the direct operation of the railroads by the federal government has changed either the fact or the amount of this differential. Nor has the subsequent construction by the city of St. Louis of the new Municipal bridge to connect the point with East St. Louis, stressed particularly and at great length by the complainant, any material effect upon the present issue. Perhaps the only power that the commission, in any event, would have in connection with the use of this bridge by the trunk lines would be to require them, on a reasonable and proper basis, to establish through routes and joint rates with some municipal or other railway which might in future be organized and constructed to operate over it.

"The record clearly indicates that the service rendered by the transportation agencies in the through routes from the mines to final points of delivery is greater, both from the standpoint of mileage and of expense per mile, on the St. Louis coal than it is on the East St. Louis coal. The service beyond East St. Louis on the St. Louis coal is over expensive bridges and through a congested metropolitan city district, where the cost of terminal acquisition and upkeep is very great.

"This case is not one to be decided on technical theories, but as a practical proposition of rate making, in which the interests, not only of the shippers of the St. Louis district, but as well those of the East St. Louis district, are to be carefully considered. East St. Louis is in a real sense located right at the door of the Illinois coal deposits, where its cost of transportation is favorably affected by the short distance from the mines, and by its location on the near side of a great river, and is entitled, within the reasonable limits of rate making, to all the benefits of that location. The two cities are in active competition with each other in the location of new industries. Each city has its advantages and disadvantages, industrial and economic. It must be recognized, however, that East St. Louis has a natural advantage of location over St. Louis with respect to this Illinois coal, of which it should be deprived by a readjustment of rates only upon a clear showing of justification. East St. Louis has grown rapidly in recent years, but there is no showing upon this record that this has been due to any maladjustment of the rates on this Illinois coal, at the expense of St. Louis, which has also made rapid progress industrially."

The St. Louis Chamber of Commerce was represented in this case by Joseph W. Folk, who resigned as chief counsel for the Interstate Commerce Commission to become counsel for the association.

June 18, 1920

RAILWAY AGE

1953

State Commissions

The Public Utilities Commission of the State of Idaho has brought an action before the Interstate Commerce Commission asking that the Northern Pacific Railroad, the Oregon-Washington Railroad & Navigation Company, and the Camas Prairie Railroad Company (the latter controlled by the two others) be ordered to extend the Camas Prairie Railroad from Senn, Idaho, to connect with the Pacific & Idaho Northern at New Meadows, Idaho. The line of the proposed extension lies entirely within the state of Idaho. This action is taken to improve transportation facilities between the north and south ends of the state. It is declared that competition will be stimulated between the railroads and that this line will open up new mineral deposits, lumber and agricultural possibilities. It will reduce distance and time between Boise, Idaho, and Spokane, Wash. At the present time it is necessary in going from northern to southern Idaho by rail to travel through the states of Washington and Oregon by a roundabout route, taking 22 hours to go from Boise to Lewiston, and 25 hours from Boise to Spokane, Wash. The distance from Boise to Lewiston over the present route is approximately 453 miles, and to Spokane about 517 miles. The proposed railroad would shorten this distance by approximately 118 miles. The hearing will be held on September 16.

Personnel of Commissions

Henry Jones Ford, professor of politics at Princeton University, who was given a recess appointment as a member of the Interstate Commerce Commission by the President after the Senate had failed to confirm his appointment and that of James Duncan and Mark W. Potter, took the oath of office in Washington on June 11 and was expected to begin participating in the work of the commission this week. By virtue of the recess appointment he is entitled to sit with the commission until the Senate has had an opportunity to confirm the appointment at the next session; but his salary for the period depends upon his confirmation at that time, unless it should be taken care of by a special appropriation.

The Bureau of Service of the Interstate Commerce Commission, of which F. G. Robbins is director, is increasing its organization, by the appointment of three assistant directors. E. H. De Groot, formerly superintendent of transportation of the Chicago & Eastern Illinois, director of the Bureau of Car Service of the Interstate Commerce Commission in 1917, assistant manager of the Car Service Section of the Railroad Administration in 1918 and assistant to the director of the Division of Operation in 1919, has joined the staff this week, and R. E. Quirk, examiner of the Interstate Commerce Commission, and J. C. Roth, formerly of the Pacific Coast office of the Commission on Car Service, have also been appointed. F. C. Smith, an inspector for the Interstate Commerce Commission, has been appointed chief inspector. Since the termination of federal control Mr. De Groot has been winding up the affairs of the Division of Operation.

Court News

Carrier May Waive Limitation of Time for Bringing Action

The Minnesota Supreme Court holds that a carrier, issuing a bill of lading containing a four months limitation provision for making claim for loss for failure to deliver, may waive such provision.—Welch Co. v. Chicago, M. & St. P. (Minn.), 175 N. W. 100.

Extra Switchman—Course of Employment

An extra switchman, employed from day to day, reported for work, and, after being told there was no employment, climbed on a moving freight train for his own convenience in going home, and was struck by a viaduct under which the train passed. The Illinois Supreme Court holds that the accident did not arise out of and in the course of his employment within the Workmen's Compensation Act, his employment having ceased and his act having no connection with employment by the railroad.—Michigan Central v. Industrial Commission (Ill.), 125 N. E. 278.

Automobile Driver's Negligence at Crossing Imputed to Occupant

The South Carolina Supreme Court holds that where an automobile driver, in driving the automobile to a station, acted on the directions of occupants of the car, who wanted to board a train, the management of the automobile was the concurrent act of the driver and the occupants and the negligence of the driver in driving at excessive speed was imputed to an occupant precluding recovery from the railroad for injuries at the crossing.—Langley v. Southern (S. Car.), 101 S. E. 286.

Overvaluation of Railroad Bridge

Property Properly Reduced

In an action by a railroad against a city, attacking the valuation of a bridge for taxation, the Iowa Supreme Court held the evidence insufficient to show that the taxing authorities sought to impose an unequal burden on the railroad, although they were evidently induced, on account of the large income from the bridge, which was leased by its owner to various other railroad corporations at a large annual rental, to greatly overestimate its actual value, which was properly reduced by the trial court.—Union Pac. v. Council Bluffs (Iowa), 175 N. W. 7.

Workmen's Compensation Act—Burden of Proof of Cause of Gunshot

An engine hostler was last seen alive working on an engine, and ten minutes thereafter was found lying by the engine dead from a bullet wound. There was nothing to indicate suicide, or by whom the shot was fired. Claim was made for his death under the Pennsylvania Workmen's Compensation Act, article 3 of which provides that the term "injury by an accident in the course of his employment," as used in the act, shall not include an injury "caused by an act of a third person intended to injure the employee because of reasons personal to him, and not directed against him as an employee or because of his employment." It was held by the Pennsylvania Supreme Court that the burden was upon the employer, seeking to escape liability, to show that the injury came within this exception.—Keyes v. New York, Ontario & Western (Pa.), 108 Atl. 406.

Unforeseen Derailment—A Bull's Combativeness

In an action for the death of a fireman, due to a bull going on the track and causing a derailment, it appeared that the bull was grazing 15 or 20 steps from the track until the train was within 40 feet of the point of impact, when he started across the track, derailing the train. The North Carolina Supreme Court held that a nonsuit was proper, though the whistle was not blown when the animal was seen. It is not the absolute duty of the railroad company to sound the whistle in all cases when the animals are near the track. After contrasting the nervous and excitable characteristics of the horse, dog and turkey with the phlegmatic nature and slow movements of the goose, as shown in railroad damage cases, the court said that so characteristic of the bull is its refusal to yield to warning, persuasion, or force that the sounding of the whistle would in all probability have been regarded as the challenge for battle.—Enloe v. Southern (N. Car.), 101 S. E. 556.

Railroad's Application for Certificate of Convenience and Necessity

The New York Court of Appeals holds that, in granting permission to construct a railroad under section 53 of the state Public Service Commission Law, the commission cannot predicate its permission upon the condition that an exact line of construction specified by the commission shall be adopted. Where the commission granted a certificate of convenience and necessity, under Railroad Law, § 9, with the erroneous idea that it could specify the exact location of the proposed road when granting permission to construct under

section 53, the order granting the certificate was held invalid, as well as the one under the Commissions Law, since the orders are interdependent, and not separable. In an application for such a certificate the railroad need not file a map indicating with precision the proposed location of the road, nor is the commission limited to a consideration of the routes shown by maps filed during the proceedings.—People ex rel New York Central (N. Y.), 125 N. E. 438.

Crossing Accident—Contributing

Negligence of Automobile Passenger

In an action against a railroad for injuries to a passenger in an automobile, instructions to the jury were held erroneous as misleading which told the jury that the railroad had the burden of showing its freedom from negligence, and that a showing that it had given the statutory signals, at the crossing in question, of the train's approach, did not relieve it of such burden. Smoke from a freight train, trees, weeds and foliage obscuring the view of approaching trains, and the conformation of the ground in the vicinity of the crossing, were proper to be considered by the jury in determining whether the plaintiff had exercised reasonable care for her own safety. An instruction on contributory negligence should not have embraced facts and circumstances "that may appear in the evidence in this case," but should have been limited to facts and circumstances existing or occurring prior to the collision. Judgment for the plaintiff was reversed and a new trial ordered.—Lake Erie & Western v. Douglas (Ind.), 125 N. E. 474.

Liability for Defective Locomotive Boiler

In an action under the federal Employers' Liability Act for injuries to a locomotive fireman while attempting to tap the valve of blow-off cock when the valve would not close, the specification of negligence being that the blow-off cock was defective as to its valve and its discharge pipe, an instruction that the railroad was bound to furnish the plaintiff a locomotive boiler which was safe to be used both as to the boiler and as to its appurtenances, and to keep and maintain the same in such condition at all times so as not to expose the plaintiff to hazard or risk, was held by the Iowa Supreme Court to conform to the Locomotive Boiler Act as amended and the federal Employers' Liability Act, and not subject to objection because it ignored the question of negligence. Since the latter act and the Safety Appliance Act enjoin certain specific duties upon employers, a breach of which is declared to be unlawful and punishable, a breach constitutes negligence as a matter of law, and it is immaterial whether the term "negligence" is used for the purpose of submission of the case to the jury. The question whether the Locomotive Boiler Act imposes on the railroad an absolute duty, or only a duty to use due care, is not open to the state court, the Supreme Court of the United States having construed the Safety Appliance Acts as imposing an absolute duty as distinguished from the qualified duty at common law to use due care.—Thornton v. Minneapolis & St. L. (Iowa), 175 N. W. 71.

Nature and Extent of Railroad's Right to Its Way

In a suit by a railroad to have its rights declared under two deeds to it of land for railway purposes the question presented was whether the railroad company was entitled to 100 feet on each side of the center line of its main line or only to enough land for a main line and a side track. The Tennessee Supreme Court holds that the grantor as owner of the fee, subject to the railroad's easement, could subject the land to any use which he saw proper, but so as not to interfere with the use of the land for railroad purposes. Such occupation by the grantor is not adverse to the company's claim. Therefore the fact that the owner and his successors had occupied the land for many years was no bar to the railroad company's right to recover possession of the right of way. A right of way "for a railroad, according to the provisions of the charter," was conveyed by deed, in which the width of the right of way was left blank. It was held that the deed did not convey merely the width of the main

line and side track, but a right of way of the width of 200 feet, as determined by the company's charter, though a later deed described a station site 175 wide on one side of the track. The fact that the company does not require the full width of the right of way at any particular time for railroad purposes, and therefore does not use it in connection with the construction and operation of its road, is no evidence of an abandonment. Before an abandonment can be established there must be shown the intention on the part of the company to cease maintaining and operating its road over the right of way. The adverse holding of the surface of the land by the owner of the fee, and an acquiescence therein by the company, are no indications of an abandonment. A railroad company is without power to divest itself of any part of its right of way so as to cripple it in the discharge of its duties to the public—Southern v. Vann (Tenn.), 216 S. W. 727.

United States Supreme Court

Interstate Movement of Coal Weighed Enroute

A claim was made under the Pennsylvania Workmen's Compensation Act for the death of a trainman of the Philadelphia & Reading and an award allowed. The case was taken to the United States Supreme Court. The man's duties never took him out of Pennsylvania and when injured he belonged to a crew moving a train of loaded cars from Locust Gap Colliery to Locust Summit Yard, two miles. The ultimate destination of some of these cars was outside of Pennsylvania. This appeared from cards or memoranda delivered to the conductor. The cars were inspected, weighed and billed at Shamokin Scales. Freight charges at through rates were assessed and paid for the entire distance, beginning at the mine.

The claimants maintained that the coal in cars carded for transportation as above described did not become part of interstate commerce until the cars reached Shamokin Scales and were there weighed and billed. The Supreme Court holds that the coal was in the course of transportation to another state when the cars left the mine, and the judgment was therefore reversed. Mr. Justice Clarke dissented. Decided June 1, 1920.

Right of Way Over Public Lands

in Indian Reservation

The Union Pacific has won its suit to obtain possession of certain lands in Kansas, formerly part of the Pottawatomie Indian Reservation, which lie in the margins of the 400-foot strip claimed by it as legal successor of the original grantee, the Leavenworth, Pawnee & Western. The question in the case was, Were the lands involved "public lands" within the meaning of the Acts of Congress of July 1, 1862, and July 2, 1864, granting a right of way to the Leavenworth, Pawnee & Western and its successors? The case was tried in the court below on an agreed statement of facts and resulted in a judgment for the railroad, without opinion. The Supreme Court of the United States has affirmed that judgment. The opinion, by Mr. Justice McReynolds, reads, in part: "In Kindred v. Union Pacific, 225 U. S. 582, 596, lands in the Delaware Diminished Indian Reservation—east of the Pottawatomies—were declared 'public lands' within the intentment of the right of way clause, act of 1862, although then actually occupied by individual members of the Tribe under assignments executed as provided by treaty. That case renders clear the definite purpose of Congress to treat Indian Reservations, subject to its control, as public lands within the right of way provision. This provision is not to be regarded as bestowing bounty on the railroad; it stands upon a somewhat different footing from private grants and should receive liberal construction favorable to the purposes in view. United States v. Denver & Rio Grande, 150 U. S. 1, 8, 14." The right of way provision in the act of 1862 is of "200 feet in width on each side of said railroad where it may pass over the public lands." Mr. Justice Clarke dissented. Justices Holmes, Pitney and Brandeis did not participate in the decision. Decided June 7, 1920.

Foreign Railway News

The government of Chile is planning to buy in the United States cars and locomotives to the amount of \$8,000,000; and the Chilean Embassy, at Washington, announces that bids are to be asked for.

The South African Government has acquired three prize vessels, the Spattle, 5,133 tons, the Huntress, 4,997 tons, and the Apolda, 4,939 tons gross register. These vessels are being worked by the Administration and are being used to take to South Africa large quantities of overdue material of which there is such urgent need, and to carry cargoes of South African products in the outward direction.

The Exports of Cars in April

The exports of railway cars from the United States in the month of April, as reported by the Bureau of Foreign & Domestic Commerce, amounted to seventeen passenger cars and 2,761 freight cars, of a total value of \$5,615,185. Of the passenger cars one went to Mexico, fourteen to Cuba, one to Argentina, and one to New Zealand. The distribution of the freight cars, and other items from the table, are shown below. The total in the last column includes ten items not here shown, all of them less than \$1,000 each:

Countries	Freight and miscel.		For other railways		Parts of cars
	Number	Value	Number	Value	
France	986	\$2,335,864	...	...	\$166,446
Italy	1,060	1,915,640	...	...	1,921
England					1,341
Canada	39	83,983	52	\$7,548	41,512
Honduras	50	45,650	20	1,804	2,541
Mexico	15	5,629	25	22,368	166,983
Cuba	489	686,829	25	22,368	166,983
Dominican Republic	20	2,400	10	5,500	866
Argentina					1,834
Bolivia	2	8,180	2	900	...
Brazil			20	45,040	16,409
Peru					2,447
Venezuela			150	15,300	33,910
China			2	4,900	3,925
Kwantung			8	5,206	40,494
Japan			4	625	41,556
Philippine Islands	100	298,786	2	574	...
Total	2,761	\$5,382,961	295	\$109,765	\$524,918

Exports of Locomotives

Exports of steam locomotives from the United States in the month of April, as reported by the Bureau of Foreign and Domestic Commerce, amounted in value to about four and one-half millions, as shown below:

Countries	Number	Countries	Number	
Poland and Danzig	42	\$1,960,870	Colombia	1 \$43,975
Italy	55	578,000	Peru	5 120,410
Canada	5	41,900	China	8 486,800
Mexico	2	21,700	Kwantung	3 127,755
Jamaica	106,770	Philipine Islands	9 180,511	
Cuba	5	72,850	British South Africa	7 364,990
French West Indies	1	9,205	Total	157 \$4,449,736
Brazil	11	334,000		

Condition of Rolling Stock in South Africa

Notwithstanding the number of new engines and cars placed in service recently, rolling stock conditions, as reported by the Railroad Administration, are still serious, especially in respect of engine power. The following stock is out of commission under or waiting repair:

	No. out of service	Percentage of total
Engines	452	27.50
Coaches	355	13.01
Goods vehicles	1,292	4.43

The workshop accommodation and machinery are inadequate. Difficulty was experienced during the war in carrying out workshop extensions and improvements and in obtaining delivery of the new machinery required, so that though traffic was increasing with extraordinary rapidity, the administra-

tion was unable to obtain cars and engines to handle it properly. This year's program in respect of workshops and machinery provided for an expenditure of £360,000. Proposals had previously been sanctioned but not carried out, owing to the war, so that works are now in hand and machinery on order estimated to cost roughly something over £1,000,000.

Export of Wheels and Axles in April

The exports from this country of car wheels and axles during the month of April, as reported by the Bureau of Foreign and Domestic Commerce, amounted in value to \$593,394. From the list of amounts by countries we take the following, omitting eleven items which are less than \$500 each:

Countries	Countries
France	Brazil
Italy	Chile
Spain	Colombia
England	Peru
Canada	China
Mexico	Kwangtung
Cuba	Dutch East Indies
Dominican Republic	Japan
Argentina	Philippine Islands

\$3,286
3,720
8,991
5,594
21,469
38,632
14,675
67,323
2,928

Free Conveyance of Baggage Restored in England

The British Minister of Transport has restored as from June 14 the description and weight of personal luggage and certain goods which a railway passenger may convey with him free of charge, making the allowance the same as before the war. The weight of luggage which a passenger is allowed to carry free is approximately as follows:

1st class 150 lb. 2nd class 120 lb. 3rd class 100 lb.
Commercial travelers, lecturers, theatrical touring companies, etc., are allowed a rather larger quantity.

The charges in Great Britain (and between Great Britain and Ireland) for ordinary personal luggage and certain goods in excess of the above weight will be as follows:

For distances not exceeding 50 miles..... Half-penny a pound
For distances exceeding 50 but not exceeding 100 miles..... One penny a pound
For distances exceeding 100 miles..... 1½d. a pound

No excess charge will be made when the amount payable is less than six pence (12 cents). These charges are reduced by 50 per cent in the case of commercial travelers, lecturers, emigrants, fishworkers, merchant seamen, ships' crews, shipwrecked mariners, theatrical companies and music hall "artists."

During the war passengers were not under any circumstances allowed to take more than 100 lb. of personal baggage.

The Paralyzed Railroads in Russia

The London Times, quoting official Bolshevik publications, says that the railways of Russia have served the Soviet's military purposes very well, but for general purposes they have failed. The army has monopolized the railways since the commencement of the war, and the people are learning to do without them. The bulk of the export traffic was completely suspended three years before the advent of Bolshevism in November, 1917. Ordinary commercial traffic has throughout been reduced almost to the vanishing point. The present railway position, though no doubt calamitous, does not amount to a catastrophe. It is not new to Russia.

The Russian transport problem has never been measurable in terms even of locomotive horse-power. The president of the Soviet Economic Committee complained in a recent report that the proportion of disabled locomotives amounted to 59.5 per cent, as compared with a maximum of 15 per cent before the war. Before the war the rate of repair in the locomotive shops was about 8 per cent a month and during some part of the war repairs were done at higher pressure, but since the revolution in November, 1917, the rate of repair has been down to 1 per cent a month; today it has risen to "not over 2 per cent," and the stock of locomotives is being reduced at the rate of 200 a month, thus further curtailing the transport of raw materials from the newly conquered territories to the manufacturing centers, while factory hands are idle. Up to the present time the Bolsheviks have only

been able to clear one single mineral train per month from the Urals.

Exports of Materials in April

Exports of rails from the United States in the month of April, as reported by the Bureau of Foreign and Domestic Commerce, amounted to 46,564 tons, and the value of these and other track materials exported during the month aggregated \$3,618,408, as shown in the table below:

Countries	Pounds	Spikes		Steel rails		Switches, frogs, splice bars, etc.	
		Tons		Tons	\$		\$
Belgium		201	\$12,791	160	6,219	102,044	\$650
Denmark		1,286	76,272	45	2,772	3,400	
France		70	3,549	267	23,806	65	
Germany		11	635			5,563	
Netherlands						50	
Norway							
Portugal							
Roumania	13,650	\$467		287	19,163	497	
Spain				3	656		
England						112	
Scotland							
Canada	147,822	5,477	133	8,583	25,267		
Costa Rica	10,000	960					
Guatemala						88	
Honduras	22,900	1,324	664	43,552	6,940		
Nicaragua	2,000	126	76	3,750	89		
Panama	75,770	5,475				1,920	
Salvador	1,200	66					
Mexico	211,768	8,174	196	12,675	18,390		
Jamaica	30,400	1,352	1,124	60,785	4,445		
Trinidad and Tobago			48	2,736			
Other B. West Indies			190	9,935	378		
Cuba	928,643	36,934	10,325	551,958	167,979		
French West Indies	19,290	2,390	1	82	975		
Dominican Republic	3,600	330	560	30,800	3,307		
Argentina	31,430	1,283				7,025	
Bolivia			15	900	1,059		
Brazil	527,124	31,884	2,583	167,440	106,594		
Chile	23,300	1,315	829	42,915	14,525		
Colombia	2,400	133	1	122	86		
Ecuador	10,000	525	5	269	1,412		
British Guiana	210	68					
Dutch Guiana	3,600	165					
Paraguay	4,579	362					
Peru	67,417	2,637	1,359	73,503	23,152		
Uruguay			77	4,498			
Venezuela	14,285	1,081				111	
China	40,720	980	218	13,055	16,877		
Kwantung	100,800	3,335	28	5,100			
British India	334,500	17,982	32	2,025	5,572		
Straits Settlements			20	1,134	3,424		
Dutch East Indies	940	42	3,817	221,033	15,521		
Hongkong	52,000	845					
Japan	910,679	36,361	17,549	1,063,201	85,357		
New Zealand			15	821	898		
Philippine Islands	205,808	7,684	2,456	136,332	24,692		
British South Africa	117,102	9,168	1,863	107,215	74,410		
Portuguese Africa			50	2,798	3,529		
Total	3,913,937	178,925	46,564	2,713,080	726,403		

Construction Work on the Trans-Zambesia Railway

According to reports in the local press construction work on the Trans-Zambesia Railway will begin immediately, continues Mr. Ray. The contract has been let to an English firm (Messrs. Pauling & Co.), which has undertaken to turn over the line in complete working order by the end of March, 1922. The contract price is £810,000 (\$3,941,865 at par), and for this sum it is to build the line, with stations, bridges, buildings, and other necessary work, including telegraph and telephone lines, in accordance with the specifications and plans prepared by the company's engineers. Rolling stock will be an additional charge and will be supplied by the company. The line will run from about mile 18 on the Beira Junction Railway to a point on the Zambesi River opposite Chindio, the terminus of the Central Africa Railway, and will have a length of about 165 miles. It will rise to a height of 1,200 feet and no serious engineering difficulties are anticipated. The line will form part of a through route from Cape Town to Lake Nyasa, via Bulawayo, Salisbury, and Beira.

Although this railroad runs entirely within Portuguese territory, it is primarily a British enterprise for the purpose of opening up the British Nyasaland Protectorate, which will gain thereby direct access to the sea through the port of Beira. At present the route to British Nyasaland lies through the port of Chinde, Portuguese East Africa, with transshipment from the river boats to the railway at Chindio. The government of British Nyasaland, in view of the advantages to be derived from the operation of this line, has guaranteed an annual return of 6 per cent for 25 years on the debentures, which amount to £1,200,000 (\$5,839,800 at par), and also a redemption fund of £30,000 (\$145,995 at par) during a period of 20 years beginning five years hence, which is equivalent to a guarantee of half the capital.

Supply Trade News

Walter Brinton, manager of the American Manganese Steel Company at New Castle, Del., has been elected vice-president of the company.

The address of The Material Handling Machinery Manufacturers' Association has been changed from 35 West Thirty ninth street, New York City, to 110 West Fortieth street, New York City.

The Yale & Towne Manufacturing Company has purchased the Industrial Truck Division of the C. W. Hunt Company, of Staten Island, New York. That business will be combined with the hoist department of the Yale & Towne Manufacturing Company.

Jerome A. Turivas, son of Louis Turivas, of the Great Western Smelting & Refining Company, and **Samuel W. Pass** have formed the Turpass Railway Supply Company, of Chicago, with headquarters in the Peoples Gas Building, Chicago. They will handle cotton and wool waste and other specialties.

George B. Hild, formerly general agent of the Southern Pacific lines, with headquarters at Chicago, and more recently with the American Sugar Refining Company, at New York, has been appointed vice-president and director of sales of the **Chicago Railway Printing Company**, with headquarters at Chicago, effective May 15.

Chas. H. Small has withdrawn his interests from the firm of Small, Shade & Co., of San Francisco, effective June 1, and is contemplating operating his own establishment in that city, for the sale of railway, industrial, mining and marine equipment. Prior to the war Mr. Small was connected with the American Brake Shoe & Foundry Company at its Mahwah, N. J., plant, and represented that company at the Panama-Pacific International Exposition at San Francisco, Cal., in 1915.

H. M. Sloan, assistant to the president of the Chicago, Milwaukee & St. Paul, has been appointed treasurer of the Buda Company, Harvey, Ill., with headquarters at Chicago, effective



H. M. Sloan

June 1. Mr. Sloan entered railway service with the Fremont, Elkhorn & Missouri Valley and was later transferred to the vice-president's office, with headquarters at Chicago. He resigned this position in 1902 to enter the comptroller's office of the Chicago, Rock Island & Pacific. In 1904 he was promoted to chief clerk and on January 1, 1905, was appointed auditor of disbursements. In July, 1906, he was appointed assistant to the vice-president with headquarters at New York, and later to assistant to the chairman of the executive committee. On December 1, 1900, he was appointed assistant to the vice-president of the Chicago, Rock Island & Pacific, holding this office until receivership, at which time he was appointed as assistant to the receiver. During the period of federal control Mr. Sloan served on the War Industry Board. He was appointed assistant to the president of the Chicago, Milwaukee & St. Paul when the roads were returned to private control on March 1, 1920.

June 18, 1920

RAILWAY AGE

1957

Obituary

Whitfield P. Pressinger, first vice-president and general manager of the Chicago Pneumatic Tool Company, with headquarters in New York, died recently at the Roosevelt Hospital in New York following an operation. Mr. Pressinger was born at New York on September 27, 1871. He received a public school education and shortly after he finished and began work he entered the employ of the company in whose service he rose to the rank he occupied at the time of his death. Mr. Pressinger was the author of "Advances of Compressed Air," which has been translated into several languages. Besides being a member of many other clubs, he was also a member of the New York Railroad Club and the American Society of Civil Engineers. He also served for nine years with Company A, Seventh Regiment.

Trade Publications

INDUSTRIAL SERMONETTES.—Frank D. Chase, Inc., industrial engineers, Chicago, have issued a 16-page booklet of "sermonettes" on building construction, accompanied by illustrations of plants designed and built by this firm for railway supply concerns and other industries.

BULLETINS 41, 42, 44 AND 47. These four bulletins are a part of a series of eight bulletins issued by the Wellman-Seaver-Morgan Company, Akron, Ohio, and dealing with the various products manufactured by that company. Bulletins 41, 42, 44 and 47 are devoted to the railway field and are concerned respectively with coal and ore handling machinery, special cranes, hoisting and mining machinery and port and terminal equipment. Actual installations of the various types and sizes of the machinery manufactured by this company are shown by means of photographs while the opposite or adjacent page contains a working blueprint of the machine illustrated. Sufficient data is given beneath each illustration to give a general idea of its capacity and size, etc.

Railway Construction

DETROIT, TOLEDO & IRENTON.—The Strauss Bascule Bridge Company reports that it has sold a Strauss trunnion bascule bridge to this company for erection over a canal at Detroit, Mich. The bridge is a double-track structure, with a main span 145 feet long. H. B. Watters is chief engineer.

THE SOUTHERN PACIFIC has completed a six-ton electric furnace and steel foundry at Sacramento, Cal. It has under construction a new boiler shop at Visitacion yard, San Francisco, and a new foundry and spring shop at Sacramento.

Freight Cars

THE ILLINOIS CENTRAL has issued an inquiry for 300 stock cars.

TWO REASONS FOR BUYING COAL.—An interesting angle of the situation regarding a shortage of coal and of transportation has been given by John M. Taylor, president and general manager of the John M. Taylor Coal Company, Columbus, Ohio. After saying that the railroads and the Interstate Commerce Commission are doing all in their power to solve the problem, and expressing his belief that conditions will be greatly improved within the next two months, Mr. Taylor said: "Another important element entering into the present wild scramble for coal at exorbitant prices, on the part of certain industries, is the fact that it is a clever way to secure cars for the shipment of their own product. Many of them are buying more coal than they actually need in order to obtain the cars for shipment of their product, and in the case of automobiles, pipes, tires and even steel products these cars from the middle western coal roads are shipped to points in Texas, California and New England, and in many cases do not return to the original coal roads for from six to ten months. This practice adds to the acuteness of the coal car shortage."

Railway Financial News

ARKANSAS & LOUISIANA MIDLAND.—This property, offered at receiver's sale at Monroe, La., on June 8, elicited a bid of \$287,500, with an agreement to continue the entire line in operation, and another bid of \$346,000 for the road, with the privilege of scrapping all or any part of the property. All bids will be submitted to Judge George W. Jack, of the Federal District Court, who will decide the purchaser.

ATLANTA, BIRMINGHAM & ATLANTIC.—George C. Clarke, Jr., of New York, has been elected a director to succeed Charles F. Ayer, of Boston.

CENTRAL RAILROAD OF NEW JERSEY.—The New Jersey Public Utility Commission has approved this company's application to issue \$5,775,000 6 per cent notes to pay for equipment purchased from the Railroad Administration.

CHICAGO & NORTH WESTERN.—Kuhn, Loeb & Co. and the National City Company have sold at par and interest \$15,000,000 10-year 7 per cent secured gold bonds, dated June 1, 1920, due June 1, 1930.

MISSOURI PACIFIC.—Authorization for an issue of \$12,730,000 in bonds and \$600,000 in notes has been granted by the Missouri State Public Service Commission. The proceeds will be used to retire a first mortgage 5 per cent bond issue of \$6,397,600, for a like issue of 6 per cent bonds, and for the purchase of property equipment and making improvements.

NEW YORK, NEW HAVEN & HARTFORD.—Counsel F. A. Farnham has asked the Massachusetts Department of Public Utilities to approve \$17,658,000 4 per cent bonds, dated July 1, 1920, to enable the company to take over the same amount of securities held by the Providence Securities Company, of Connecticut, maturing July 1, and guaranteed by the New Haven. The securities represent ownership of various trolley lines in Rhode Island. A mortgage on the New Haven property shall be executed to guarantee the new issue.

SAN FRANCISCO-OAKLAND TERMINAL.—This company was authorized by the Railroad Commission of California, on June 8, to issue notes to the amount of \$124,279.04 as part payment of a contract for 25 new cars from the American Car Company of St. Louis.



Photograph from Underwood & Underwood, N. Y.

French Tanks Guarding Railroad Station at Frankfort, Germany

Railway Officers

Executive

E. W. Beatty, president of the Canadian Pacific, has been elected vice-president of the Toronto, Hamilton & Buffalo, with headquarters at Montreal, Que., succeeding Lord Shaughnessy, resigned.

G. G. Yeomans, general purchasing agent of the New York, New Haven & Hartford, with headquarters at New Haven, Conn., has been appointed special assistant to the president, handling all matters assigned relating to materials and supplies; **N. M. Rice** has been appointed general purchasing agent, succeeding Mr. Yeomans, effective June 7.

Financial, Legal and Accounting

W. L. Spicer, auditor disbursements of the New York, New Haven & Hartford, has been appointed assistant to the comptroller having charge of all accounting outside of the general accounting office; **J. J. Ward, Jr.**, assistant auditor disbursements, has been appointed auditor disbursements, succeeding Mr. Spicer; **G. T. Carmichael**, assistant to the comptroller, has been appointed general auditor. These appointments became effective June 9.

Operating

The headquarters of **G. L. Lambeth**, superintendent of motive power and car equipment, have been moved from Mobile, Ala., to St. Louis, Mo.

H. C. Taylor has been appointed superintendent of car service on the Eastern lines of the Canadian Pacific, with headquarters at Montreal, Canada.

T. H. Sears, general superintendent of the southern district, western lines of the Atchison, Topeka & Santa Fe, with headquarters at Amarillo, Tex., died in Amarillo on June 12 of pneumonia.

W. T. Long, Jr., chief clerk to the general manager of the Texas & Pacific, with headquarters at Dallas, Tex., has been promoted to trainmaster of the Paris-Sherman division, effective June 1.

R. G. Prosole, has been appointed trainmaster of the Tucson division of the Southern Pacific, with headquarters at Lordsburg, N. Mex., succeeding J. I. McCrossin, returned to train service, effective June 1.

H. C. James, Jr., has been appointed assistant superintendent of telegraph of the Northern Pacific, with jurisdiction over lines east of Paradise, Mont., effective June 10, with office at St. Paul, Minn.

W. L. King, trainmaster of the Southern at Charlotte, N. C., has been promoted to superintendent of the Appalachia division, with headquarters at Big Stone Gap, Va., effective June 15, succeeding **C. E. Burchfield**.

W. G. Choate, assistant general manager of the Gulf Coast Lines, with headquarters at Houston, Tex., has been appointed general manager, effective May 15, the office of assistant general manager having been abolished.

L. S. Emery, superintendent of the Buffalo division of the New York Central Lines East, with headquarters at Buffalo, N. Y., has been appointed general manager of the Lake Erie & Western, with headquarters at Indianapolis, Ind., effective June 1, succeeding **H. A. Boomer**, deceased.

C. H. Calkins, superintendent of the Adirondack division of the New York Central, has been transferred to the Buffalo division, with headquarters at Buffalo, N. Y., succeeding **L. S. Emery**; **G. D. Dager**, trainmaster at Utica, N. Y., has

been appointed superintendent, succeeding Mr. Calkins. These changes became effective June 7.

George Dunglinson, Jr., assistant to the general manager of the Norfolk & Western, with headquarters at Bluefield, W. Va., has had his title changed to manager of the fuel department, with the same headquarters. **G. E. Bruch** has been appointed assistant to the general manager, with headquarters at Roanoke, Va. These changes became effective June 1.

Traffic

Henry T. Drane has been appointed general agent of the Louisville & Nashville, the Nashville, Chattanooga & St. Louis and the Louisville, Henderson & St. Louis, at Washington, D. C., effective June 15.

Mechanical

C. I. Walker has been appointed master car repairer at the Los Angeles, Cal., general shops of the Southern Pacific, effective June 1.

James Davis has been appointed road foreman of engines on the Southern Pacific, with headquarters at Sparks, Nevada, succeeding S. A. Canady, who has been assigned to other duties, effective June 1.

Engineering, Maintenance of Way and Signaling

John Lansdale has been appointed valuation engineer of Morgan's Louisiana & Texas Railroad & Steamship Company and other roads, effective June 1, succeeding **I. A. Cotttingham**, resigned.

W. F. Turner, assistant division engineer on the Southern Pacific, has been promoted to division engineer of the Tucson division, with headquarters at Tucson, Ariz., succeeding **H. L. Archbold**, who has been transferred.

W. F. Miller advises that he is division engineer of the Maryland division of the Pennsylvania, with headquarters at Wilmington, Del., and not of the Delaware division, as noted in the *Railway Age* of May 21 (page 1498).

D. Rounseville, assistant engineer of maintenance of lines east of the Missouri river of the Chicago & North Western, with headquarters at Chicago, has been promoted to assistant chief engineer, with the same headquarters, effective June 1.

C. T. Dike, assistant general manager of the Chicago & North Western, of the lines west of the Missouri river, with headquarters at Omaha, Neb., has been promoted to engineer of maintenance, with headquarters at Chicago, succeeding W. J. Towne, effective June 1.

H. S. Winn has been appointed assistant engineer on the Michigan Central, with headquarters at Detroit, Mich., succeeding **E. L. Brandt**, who has been appointed assistant secretary of the American Association of Engineers, Chicago, in charge of the railroad department.

Railroad Administration

E. Marvin Underwood has resigned as general counsel for the United States Railroad Administration, effective June 15. Mr. Underwood states that he is going to take two or three months' rest, after which he will return to his home in Atlanta, Georgia, to reopen his office for the general practice of law.

Obituary

Orlo D. James, former auditor of the Chesapeake & Ohio, died at his home in Richmond, Va., on June 11.

Elmer M. Tewkesbury, vice-president and general manager of the South Buffalo, died recently at his home in Buffalo, N. Y.